

**EXHIBIT
A**

Confidential Expert Report of
Dr. Boris M. Richard

UNITED STATES DISTRICT COURT
DISTRICT OF NEW HAMPSHIRE

The Securities and Exchange Commission
v.
LBRY, Inc.

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I. EXPERT QUALIFICATIONS

1. My name is Boris M. Richard and I am Managing Director with the global consulting and advisory firm FTI Consulting Inc. (“FTI”), where I have worked since Spring of 2018. Prior to my employment with FTI, I worked for seven years at Cornerstone Research as a litigation consulting expert focusing on high-profile complex disputes involving the valuation and performance analysis for various types of fixed income securities and their derivatives, as well as analyses of institutional trading in various securities markets. My litigation consulting expertise draws directly upon my more than 15-year long career as a securities strategist, bond trader and portfolio manager at major broker-dealers and large established hedge funds. I graduated from Purdue University with a doctorate in Economics, and I also hold a degree from Lomonosov Moscow State University (M.Sc. Economics).
2. During my career in the securities industry, I was head of agency debt strategy at Barclays Capital in New York, participated in the issuance of callable U.S. agency debentures, and took an active role in establishing the company as a key player in the agency debt markets. I also worked as a market maker in the U.S. agency callable bonds at HSBC Securities (USA) in New York where I was responsible for managing and hedging a US\$2 billion portfolio of secondary callable bonds. I also played a key role in the marketing and distribution of complex agency and non-agency structured MBS securities at Goldman Sachs in New York. Later on, I was a quantitative MBS hedge fund portfolio manager, generating a significant contribution to the investment book profits of over \$400 million over a five-year period. By virtue of my practical experience in capital markets, I have hands-on knowledge of how securities are issued and trade on both exchange and over-the-counter markets.

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3. My blockchain and cryptocurrency experience includes analysis of the economics and funding of blockchain projects, investment and consumptive uses of native cryptographic assets, cryptocurrency issuance practices, as well as trading of digital assets on centralized and decentralized trading platforms. I also have extensive expertise in analyzing blockchain network activity as expressed in transaction volume, value transferred, number of addresses and similar metrics, tracing of crypto assets, their transfers between public keys and wallets using commercially available forensic software, as well as publicly available block explorer applications. I am well familiar with existing industry and scholarly research on various types of permissionless public blockchains, their purpose, functionality, consensus protocols, as well as various kinds of associated cryptocurrencies. In addition to my consulting work, I am actively engaged in blockchain and cryptocurrency public discussions and forums, speaking on cryptocurrency-related regulatory and market structure issues at public conferences, as well as publishing in established legal industry media outlets.
4. A copy of my current curriculum vitae is attached as **Appendix 1** to this Report.

II. BACKGROUND OF THE MATTER AND ASSIGNMENT

5. This matter concerns allegations by the Securities and Exchange Commission brought against LBRY, Inc. (“LBRY”) – a blockchain-enabled social media platform for publishing and peer-to-peer sharing of digital content – that the latter violated the U.S. securities laws by virtue of issuing and selling its cryptographic tokens, called LBRY Credits (“LBC”) without a required

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registration with the Commission.¹ To substantiate its claims, the Commission attempts to establish that LBC represent an “investment contract”, by which LBC holders reasonably expected a return on their investment based on the entrepreneurial or managerial efforts of LBRY.²

6. I have been retained by Perkins Coie LLP (“Counsel”) on behalf of the defendant LBRY to analyze the economic and utility purpose of the LBRY network and its cryptocurrency LBC, the history of economic activity on the LBRY network, and the factors determining the LBC token price behavior. In a nutshell, my assignment is to provide an expert opinion on (1) whether LBC represents primarily a native medium of exchange/currency on the decentralized LBRY network enabling its users to publish, store, view, vote for and share digital content in a fully censorship-free decentralized manner, or, alternatively a speculative investment tool aimed at achieving resale profits, and (2) whether the LBC price behavior is controlled/influenced by the LBRY team or, alternatively, by the volume of economic activity on the LBRY blockchain and general cryptocurrency market forces.
7. I am compensated for my work in this matter at an hourly billing rate of \$790. Staff at FTI Consulting have assisted me by performing work at my direction. All the opinions and conclusions stated in this Report are my own. Neither FTI Consulting’s compensation nor my compensation is contingent upon my opinions, testimony, or the outcome of this matter.

¹ Complaint, Securities and Exchange Commission v. LBRY, Inc., Civil Action (D.N.H. filed March 29, 2021) (Case no. 1:21-cv-00260).

² *Id.*, p. 1.

III. INFORMATION CONSIDERED

8. My opinions are based on my knowledge and expertise gained during my professional career. In forming my opinions, I have considered, but not limited my review to, materials, documents and trading data produced in this matter or available through commercial cryptocurrency data provider, data publicly available on LBRY blockchain, LBRY-affiliated websites, or through other public sources. A list of these documents is attached as **Appendix 2**. The opinions stated in this Report are based on the evidence that has been provided to me to date, research and analysis that I have performed or directed in this matter, as well as my training and experience.
9. This Report is based on information available to me as of the date of this Report. My work in this matter is ongoing, and I reserve the right to modify or supplement my findings or opinions set forth in this Report as additional information is made available to me, or as I perform further analyses.

IV. SUMMARY OF OPINIONS

10. My Report provides a detailed discussion of my opinions in this matter. A brief summary of my opinions follows. Based on my review of case materials, documents produced in this matter, as well as publicly available data and information, I have reached the following conclusions.
11. From the very beginning, LBRY's goal has been to create a global, decentralized and censorship-resistant market for publishing, consuming, and sharing various forms of digital content, using LBC tokens as its native medium of exchange. To fulfil this goal, the LBRY

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team's efforts since the middle of 2016 have been exclusively focused on building and enabling user-friendly applications which provide LBRY users with a diverse set of digital services and the associated non-investment uses for the LBC cryptocurrency.

12. Substantial evidence suggests that LBRY network activity and non-investment uses of LBC coins on-chain consistently increased over time in response to the deployment of new user applications or enhancements.
13. LBRY user applications were substantially functional before the first sale of LBC token on the centralized trading platforms out of the Operational Fund in the third quarter of 2017. LBRY did not sell any LBC tokens to investors to fund either the development of the underlying blockchain or the functional LBRY Desktop browser or the associated in-app digital wallet.
14. Since the LBRY blockchain went live in the middle of 2016, the on-chain network activity, excluding transactions related to LBRY addresses, exceeded the LBC coin trading volume on secondary market trading platforms by more than 2 times. Based on this finding, I conclude that LBC token holders used this token primarily as the LBRY platform native currency to publish, consume and share digital content, and not as an investment asset held and sold for speculative gains. The majority of LBC holders did not reasonably expect to profit by virtue of the managerial efforts of the LBRY team, or at least this was not their primary objective in obtaining LBC.
15. The LBRY team did not promote secondary trading of LBC tokens to its user base. In contrast, LBRY discouraged its users from trading LBC tokens for investment gains and repeatedly advocated for keeping them on the LBRY network for purposes of consuming digital content and elevating its visibility within the LBRY platform community.

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16. There is no empirical evidence to suggest that the LBC token price was controlled or influenced by LBRY or LBRY team public announcements. Instead, statistically significant evidence indicates that the LBC token price tended to react positively in response to the introduction of new digital content related user applications or improvements/upgrades in the existing applications on the LBRY platform.

V. EXPERT OPINIONS

17. This section provides brief pertinent background information on the purpose and functioning of permissionless blockchains like LBRY and related cryptographic assets. It is followed by a detailed discussion of my findings, as well as analyses performed to reach my resulting conclusions.

A. BACKGROUND INFORMATION ON PERMISSIONLESS DISTRIBUTED LEDGER TECHNOLOGY AND CRYPTOCURRENCIES

18. A public blockchain is an immutable database/ledger that is maintained by a distributed network of independent participants. In a blockchain, a set of “users” continually send in instructions over time, referred to as “transactions”. Received (broadcast) transactions should be organized into a single tamper-proof list, or blockchain, so that all participants can agree on the same order in which transactions are to be carried out. Once transactions are committed to the blockchain in a certain order, they can never be deleted or changed, and the order in which they are recorded on the blockchain cannot be changed either.
19. A blockchain ecosystem, therefore, has two different types of participants: (1) users who send in transactions, and (2) those maintaining the blockchain who append valid transactions to

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the single ever growing chained immutable list. The latter category of blockchain participants are often referred to as “validators” or “block producers”, and such participants may or may not be users themselves. What makes the task of maintaining blockchains challenging is that they are normally implemented in a setting where some subset of the users and validators are expected to display faulty, and even malicious, behavior. Users may send in conflicting transactions and different transactions to different validators. Malicious validators may try to create blocks where some of the transactions are designed to overwrite valid transactions in the past. Or they may try to disrupt the process of reaching consensus as to which transactions have been committed to the blockchain.

20. Bitcoin, which began operating in 2009, is the most famous and largest permissionless blockchain in existence today. In the case of Bitcoin, the blockchain is used to create a currency which is used to perform non-intermediated peer-to-peer transfers of value. That is, Bitcoin transactions are financial payment transactions, whereby one user transfers currency to another. The blockchain allows all users of the currency to agree on which transactions have taken place. Based on this agreement, the blockchain tracks account currency balances of all users, as well as the history of transactions/value transfers which have resulted in such balances at any given point in time.

21. While currencies and associated exchanges of value/payments are an established application of blockchain technology, there are multiple other types of transactions which blockchains are designed to enable and store in an immutable way. In the case of a social media and data sharing application like LBRY, transactions involve paying for non-free content, a new video post, tipping someone for a post with the native cryptoasset, “staking” such asset to boost the visibility of a particular video or a channel, or creating a channel, i.e., an account. Another

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type of transaction, applicable to LBRY, might involve a user receiving a reward in his digital wallet for his past activities, or an incentive reward, paid in the native currency of the blockchain, LBC.

22. The engine of any blockchain is a “consensus protocol”. This is the set of rules that describes the process by which validators/block producers reach agreement on the blockchain. What distinguishes Bitcoin and other public blockchains, such as LBRY, from traditional centralized protocols is that they operate in a so-called “permissionless” setting. That is, there is no central authority that decides who can join the blockchain or which transactions should be considered for validation, in what sequence, and, if valid, appended to the history of the ledger. Anybody can become a validator and decide how many validating nodes/clients to run.
23. Running a large number of validators under different names in a permissionless blockchain setting may enable malicious users to gain control of the system by way of so-called “Sybil” attack³. There are a number of methods to prevent Sybil attacks, and Proof-of-Work (PoW) is the first and most significant one. The LBRY blockchain, originally drawing upon the Bitcoin code base, uses PoW as its consensus mechanism.
24. Under PoW, a validator’s influence is governed by the amount of computational power it possesses, regardless of the number of validating nodes it controls. This works because computational power is a scarce and testable resource; hence, it is costly to increase computational power in order to gain the level of influence. To ensure that block producers are weighted by their computational power, PoW protocols such as Bitcoin or LBRY require

³ The term ‘Sybil attack’ originates from a book by Flora Rheta Schreiber – a story of a woman diagnosed with dissociative identity disorder.

validators (called “miners”) to expend computing and electricity resources solving computational puzzles to demonstrate the computing power at their disposal. The specifics of the mining algorithm of the LBRY blockchain is discussed later in this report.

25. All public blockchains have native cryptographic assets (cryptocurrencies) to enable a peer-to-peer transfers of value and various kinds of digital services, as well as to pay for the cost of executing such transactions. On PoW blockchains like Bitcoin and LBRY, native cryptocurrencies are also generated (mined) with each new block of transactions in accordance with pre-established blockchain-specific algorithms to pay rewards to the validators/block producers for their efforts expended to secure the blockchain. On the LBRY blockchain, the native cryptocurrency LBRY Credits (LBC) is used both to enable user transactions with respect to publishing, consuming and sharing digital content and to pay rewards to validators.

26. The following section of this Report provides a discussion of my expert opinions along with a detailed review of the case-specific evidence, documents, LBRY blockchain activity, social media sources, as well as trading and price data on LBC cryptocurrency which I used as the basis for my conclusions.

B. LBRY PROTOCOL IS A CENSORSHIP-RESISTANT SOCIAL MEDIA PLATFORM DESIGNED TO ENABLE USERS TO DISTRIBUTE AND CONSUME DECENTRALIZED DIGITAL CONTENT

27. The idea of LBRY dates back to the fall of 2015. The two co-founders believed that traditional organizations and platforms that provide various forms of online media tend to monopolize the state of the market, control the content at its ultimate discretion, and extract rents from the authors and content creators, limiting their growth potential. As an alternative, they wanted to create a protocol which would decentralize the way in which digital content is shared and published throughout the Internet and which would reward the artist/content

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creator directly. They also believed that in a decentralized platform with no central authority, individuals would have control over their media instead of being subjected to rules which they might not have agreed to.⁴

28. LBRY was created by blockchain people for blockchain enthusiasts as a censorship-resistant tool to create, store, and share digital content in various forms (videos, images, etc.), as well as to reward content creators for creating such content and users for consuming such content. According to LBRY's public website, its mission is to "create a market for accessing and publishing information that is global, decentralized, robust, optimal and complete".⁵ In particular, LBRY sought to facilitate the distribution of all data, whether it be a video, an image, or a spreadsheet, in such a way that it would be accessible anywhere in the world on any internet-connected device, not be controlled by any one person, party or authority, resistant to censorship or any kind of control by a central authority, as well as immune to attacks or disruptions. LBRY aimed to create and distribute information in the most efficient way from the perspectives of information producers and consumers.

29. The LBRY protocol consists of three fundamental layers: (1) blockchain, (2) data network, and (3) user applications. The baseline foundation of the LBRY ecosystem is the blockchain, the purpose of which is to provide a single shared index of published content, as well as content discovery and payment by the users for the desired content.⁶ The LBRY blockchain stores structured information about the content (so-called metadata), such as the title, creator, price (if any), and a unique stream hash that allows the actual content to be retrieved from the

⁴ <https://news.bitcoin.com/lbry-decentralized-sharing-platform/>

⁵ <https://lbry.tech/overview>.

⁶ <https://lbry.tech/overview>

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data network. The blockchain also stores “names”, which allows users to identify pieces of content or creator channels through human-readable names. Finally, the blockchain stores transactions and proofs of payment associated, for example, with paying for content or tipping a content creator. In comparison to media platforms with a centralized host, such as YouTube and Amazon, the advantage of the LBRY blockchain is that it is public and no one can be censored or blocked from using it, while rules are clearly defined and cannot be changed without community consensus.⁷ When a user streams or downloads content, LBRY stores the content in encrypted chunks and seeds it to the entire network so other users are able to download it from that user.⁸ The access to the blockchain data is free, the costs of downloading content are well defined, and content publishers earn 100 percent of the price for their content, should they choose to charge anything. The advantage of the LBRY blockchain versus decentralized data sharing protocols like BitTorrent, is that, since LBRY contains a single shared index of published content, it is easy for users to find interesting video and data files;⁹ and relevant publishers and channels, build name recognition and user following, as well as be rewarded for contributing.

30. The LBRY blockchain uses a PoW consensus algorithm to secure the network. LBRY is a fork, i.e., a modification, of Bitcoin with certain key differences including a shortened block time, more frequent difficulty adjustments, a modified hash algorithm, and modified block rewards.¹⁰ PoW networks, including LBRY, rely on miners, or validators, utilizing computer

⁷ LBRY blockchain is an open-source project, with its computer code freely available to everybody at <https://github.com/lbryio/lbrycrd>.

⁸ <https://lbry.com/faq/lbry-basics>

⁹ Lighthouse is the built-in index search engine for searching the content metadata, stored on the LBRY blockchain.

¹⁰ <https://lbry.tech/spec#consensus>

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power to identify pending transactions, bundle them into a block and append this block to the ledger by solving a mathematical puzzle. This process is critical to maintaining a single source of truth for all activity that takes place on the network. As a result of this process, and to incentivize participation, validators are rewarded with the blockchain's native token (LBC in the case of LBRY) when they successfully append a block of transactions to the ledger. The amount of LBC that is sent to a validator for appending a new block is defined as part of the LBRY protocol and termed a *block reward*. LBC's issuance is limited to 1,083,2020,000 LBCs.¹¹ Aside from an initial 400MM LBC which was mined by the LBRY team in the genesis block, these block rewards are the only way that the circulating supply of LBC increases over time. Sixty percent of the total lifetime supply of LBC is allocated over time to platform users who operate as miners. As defined in the protocol, the block reward paid to miners is originally set to a peak of 500 LBC before decreasing slowly to zero over a span of 20 years, at which point the entirety of the LBC maximum supply will be in circulation.¹²

31. LBCs, as discussed in the preceding paragraph, are earned by miners in the form of block rewards. They are also used as the medium of exchange to pay for preferred digital content, for costs of uploading and downloading data, for tipping favorite content creators, and for boosting the visibility of certain posts and channels. Finally, LBCs are also earned by users for content viewing, channel tracking, content publishing, having other users follow their own channels, and referrals to join LBRY. Contributors who help develop new applications on the

¹¹ See <https://lbry.com/faq/block-rewards>.

¹² <https://lbry.com/faq/mining-credits>

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LBRY blockchain can also earn LBC. I discuss the economic uses and utility of the LBC cryptocurrency in more detail in Section C below.

32. The data network, LBRYNet, is the second layer of the LBRY ecosystem which interprets and validates the metadata stored in the blockchain, announces new digital content to network participants, accesses and distributes referenced data to LBRY users in a peer-to-peer fashion, and creates, signs and validates identities.
33. The applications layer of the LBRY ecosystem is what enables users' interactions with the blockchain and the data network and what defines practical ways that allow consumers to create, consume/pay for and exchange digital content, post feedback, and tip the creators of the content that they like. This layer consumed most of LBRY's development efforts because it defines the economic and consumer value of the LBRY platform for its users. While LBRY initially kick-started the social media platform by deploying a desktop browser and wallet application (LBRY Desktop), as well as its mobile (LBRY Android) and web-based versions (Odysee.com), LBRY also provides its users and third-party developers with a comprehensive set/library of development tools (lbry-sdk), which enables anyone to develop and deploy their own applications on top of the LBRY blockchain in a permissionless way.¹³

¹³ Lbry-sdk is composed of (1) an implementation of the full LBRY protocol specification, except the blockchain protocol, (2) components that are useful for developing applications using the protocol, and (3) a background program that participates in the LBRY data network and provides a computer interface (API) for interacting with the protocol. Source: <https://lbry.tech/glossary#lbry-sdk>.

1. DECENTRALIZED USER-ORIENTED APPLICATIONS POWERED BY BLOCKCHAIN TECHNOLOGY IS THE CORE OF LBRY

34. LBRY is an alternative to YouTube and provides a way to overcome some of the crucial challenges that users of Youtube face on the platform. First, with so many content creators and new channels constantly added, the barrier for making someone's YouTube videos visible is very high. As a result, converting someone's publishing efforts into revenue is extremely hard¹⁴. Second, YouTube content creators and consumers are subject to a lack of transparency since YouTube has the absolute discretion to demonetize a given channel without providing any justification or clear reasoning. Finally, while increasingly popular, content concerning blockchain and cryptocurrency issues are still far from a mainstream topic on YouTube, whereas LBRY has historically been far more favored by cryptocurrency enthusiasts.
35. The applications available on top of the LBRY blockchain are all informed by the goal of creating a user-friendly interface to allow users to upload their work to the LBRY host network, to choose a price for streaming or downloading, to share the digital content for free, and to promote a user's own content or the content of others. LBRY's history since the middle of 2016 demonstrates that the LBRY team's consistent priority has been to deploy and improve consumer-facing desktop, mobile and web-based applications which in turn

¹⁴ One study by Mathias Bärthel (2018) finds that the top 3% of all YouTube channels account for 28% of all uploads and 85% of all views and that large channels grow at faster rates than smaller ones, making the vast majority of channels irrelevant and unlikely to ever gain serious viewership. Moreover, those top 3% of channels only make around \$12,000 to \$16,000 in advertising revenue through YouTube. Still, this is a sum the vast majority of content creators are never likely to see. See Mathias Bärthel (2018). *YouTube channels, uploads and views: A statistical analysis of the past 10 years*, Convergence: The International Journal of Research into New Media Technologies, 24(1), 16-32.

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incentivizes users to use LBC on the LBRY blockchain for transactional, and not investment or trading, purposes.

36. The focus of LBRY on creating a rich, reliable, scalable, and functional set of digital content services for its users is evident from its approach to its so-called White Paper. Typical blockchain White Papers often present theoretical discussions of the proposed blockchain architecture, chosen consensus algorithm, token distribution and funding plans – often long before the blockchain mainnet goes live. The first ever cryptocurrency whitepaper, published on October 31, 2008, by an individual or entity by the pseudonym Satoshi Nakamoto and titled “*Bitcoin: A Peer-to-Peer Electronic Cash System*”, proposed a framework for non-intermediated “sound money” as an alternative to the existing monetary system.¹⁵ This document went into extensive detail regarding the overall theory for the Bitcoin blockchain, including consensus mechanism, token supply and provenance, hash algorithm, etc, but in essence it laid out a proposal for a system that was not in existence at the time. The first Bitcoin transaction was not broadcast to the network until a few months later on January 11, 2009.¹⁶

37. The Bitcoin White Paper established a framework that countless other blockchain concepts have followed. For example, in May 2017 a new blockchain concept, Algorand, published its own White Paper entitled “*Algorand’s Theoretical Paper*”.¹⁷ Rather than a provide a technical specification of an existing system, this paper outlines the theory behind Algorand and provides a proposal for its future development. The Algorand blockchain was not

¹⁵ <https://bitcoin.org/bitcoin.pdf>

¹⁶ <https://www.blockchain.com/btc/tx/f4184fc596403b9d638783cf57adfe4c75c605f6356fbc91338530e9831e9e16>

¹⁷ https://algorandcom.cdn.prismic.io/algorandcom%2Fece77f38-75b3-44de-bc7f-805f0e53a8d9_theoretical.pdf

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officially launched until two years later in June 2019.¹⁸ Similarly, in October of 2016 Gavin Wood released his proposal for a new blockchain system titled “*Polkadot: Vision for a Heterogenous Multi-Chain Framework*”.¹⁹ Again, the Polkadot White Paper represents a proposal for the implementation of a new theoretical system, so-called parachains, which solves some of the pitfalls of existing blockchains, in particular, interoperability and scalability. Polkadot first launched in May 2020, roughly four years after the publication of the White Paper, and did not hold its first “Parachain Auction” until November of 2021, or over five years after the publication date.²⁰ By way of another example, the well-known Tezos blockchain project published its theoretical White Paper on blockchain and consensus algorithm design in September 2014, while its mainnet went live only four years later.²¹

38. On the other hand, LBRY did not publish a traditional theoretical White Paper describing a future blockchain project. Rather, it published a document that it titled “LBRY Protocol Specification”, or LBRY Spec, and it did so roughly two and a half years after the LBRY blockchain went live. The document was published on February 20, 2019 on one of LBRY’s websites, LBRY.tech.²² LBRY Spec was not a theoretical White Paper, and, according to LBRY, it was called a “spec” because it represented “a detailed description of a system in production usage”.²³ LBRY Spec focused heavily on data structures to store, stream and

¹⁸ <https://www.gemini.com/cryptopedia/what-is-algorand-cryptocurrency-blockchain#section-what-is-algorand>

¹⁹ <https://polkadot.network/PolkaDotPaper.pdf>

²⁰ <https://www.yahoo.com/now/acala-wins-first-polkadot-parachain-163540275.html#:~:text=Acala%20Wins%20First%20Polkadot%20Parachain%20Auction%2C%20With%20%241.3B%20in%20DOT%20Committed,-Ian%20Allison&text=The%20first%20coveted%20Polkadot%20parachain,Moonbeam%2C%20an%20Ethereum%20compatibility%20layer>

²¹ See <https://tezos.com/whitepaper.pdf> and https://www.coinwire.com/tezos-mainnet-officially-goes-live?utm_source=rss&utm_medium=rss&utm_campaign=tezos-mainnet-officially-goes-live.

²² See <https://lbry.com/news/lbrytech> and “LBRY: A Decentralized Digital Content Marketplace”, February 2019, available at <https://spec.lbry.com/lbry-spec.pdf>.

²³ <https://lbry.com/news/lbrytech>

access digital content, ways to access digital content, and types of existing user transactions, including payment transactions and on-chain transactions utilizing LBC, such as publishing, deletion, supporting/staking, sharing, and accessing digital content. The paper also described how the LBC native cryptocurrency is used in such transactions.²⁴

i. LBRY Desktop

39. LBRY Desktop is a browser application with an integrated digital wallet that enables users to view content, upload digital media accessible for free or at a set price, tip user's favorite creators, and as well as send/receive LBCs and earn LBCs through LBRY Rewards. The invite-only beta release of LBRY Desktop for Linux and OS X operating systems took place on July 4, 2016 – the same date when the LBRY blockchain went live.²⁵

40. For the next twelve months, LBRY introduced 14 updated releases of this application, which expanded its features and improved the speed and security. According to LBRY, more than 250,000 users signed up to test this browser and the number of content publishes exceeded 60,000 during the period of the invite-only beta release. Repeated user-friendly improvements of LBRY Desktop culminated with the v.014 release which was the open beta LBRY Desktop application that went live on July 31, 2017.²⁶ The open beta LBRY Desktop was open to everyone and worked on all major computer operating systems. In other words, by the end of

²⁴ A formal LBRY White Paper was not released as a peer-reviewed research publication for another year and a half in August of 2020, when it was published in the 2020 IEEE International Conference on Decentralized Applications and Infrastructures (DAPPS), available at <https://ieeexplore.ieee.org/document/9126007>.

²⁵ <https://lbry.com/news/beta-live-declare-independence-big-media>.

²⁶ <https://lbry.com/news/popup-open-beta>.

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July 2017, the LBRY permissionless digital content publishing and sharing platform was fully functional from the perspective of intended user experiences.

41. Importantly, the LBRY wallet is different from the traditional design of software crypto wallets. Popular digital wallets (e.g., Metamask or Phantom) tout built-in token swaps as a key functionality along with the ability to store, send and receive cryptocurrencies²⁷. Additionally, most wallets such as Metamask and Phantom enable users to connect to a multitude of decentralized trading applications such as decentralized exchanges, decentralized marketplaces, and decentralized games. The LBRY digital wallet is different because it serves a different set of purposes. It is built directly into the LBRY Desktop, LBRY Android and Odysee platforms. It enables users to store, send and receive LBC as well as to interact with the LBRY platform by publishing content, boosting content with tips, tracking tips and purchasing content²⁸. To enable users to use LBC for its primary purpose of facilitating content creation and sharing, tipping others and collecting rewards for publishing, the LBRY wallet also stores a user's shared content's metadata in the form of claims when using the publishing features²⁹. Claim-related wallet transactions ensure that the blockchain uniquely identifies a user's content and that the payment/tips can be routed properly. In summary, the LBRY wallet focuses primarily on the functionality critical to allow users to access and use the LBRY platform, rather than on enabling users to swap LBC into other tokens or connect to trading applications outside of the LBRY ecosystem.

²⁷ See Metamask wallet website at <https://metamask.io/>, and Phantom website at <https://phantom.app/>.

²⁸ See <https://lbry.com/faq/lbry-basics>.

²⁹ On LBRY, a 'claim' is the term used to describe URL entry during the publishing process. Claims consist of a name (for the URL at which the published content can be found), a number of Credits that act as a bid to reserve the chosen name, and additional data related to the content and/or publisher's identity. See <https://lbry.com/faq/naming>.

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42. The LBRY Desktop + Wallet application received a “facelift” one month later on August 31, 2017, which included improvements in the process of LBRY Rewards, as well as an enhanced capability of the wallet to manage invites, rewards and price setting for digital content. The remainder of 2017 saw another four new releases of LBRY Desktop which added capability for users to tip their favorite content creators, subscribe to their favorite channels and to convert other cryptocurrencies into LBC directly in the app through an integration with a trading platform called ShapeShift.³⁰

43. LBRY Desktop has continued to improve since then to include new privacy features for customers, added support for multiple languages, and the ability for a user to include comments along with sending tips to favored content creators, to name just a few. Exhibit 1A includes a history of improvements to LBRY Desktop through its current v.052 release (as of January 2022) - all aimed at expanding the experience of LBRY users to publish, share, and comment on content, as well as reward others for doing the same.³¹

ii. LBRY Android

44. To expand users’ capabilities to access LBRY’s social media and data sharing platform on mobile devices, LBRY also worked on the mobile version of the LBRY browser and wallet, called LBRY Android. Exhibit 1B depicts the timeline of development efforts on this user-facing application and indicates that efforts to integrate wallet and content search features into the mobile browser were under way in early 2018.³² A few months later, in September

³⁰ <https://lbry.com/news/lbry-shifting-into-high-gear>

³¹ See Exhibit 1A.

³² See Exhibit 1B.

2018, LBRY made an open-beta release while still working on multiple user driven features of the application. Persistent efforts to enrich consumer experience to enable the publishing, tipping of other creators for content, channel subscriptions, ShapeShift integration for LBC in-app conversions, content history management, and mobile wallet features, culminated in the full beta release of the mobile browser version 0.8.0 “Andromeda” on the Google Play Store on July 31, 2019.³³ The same exhibit 1B demonstrates that multiple new enhancements and ways for a wider audience of users to use LBC on digital content were introduced by LBRY in 2020 and 2021.

iii. Web-Based Data Sharing Platform and Browser: From Spee.ch to Odysee.com

45. LBRY also actively worked to empower users to control their own content and to share the information in a true peer-to-peer fashion. To this end, a free-to-use hosting and content sharing web-based application Spee.ch was released on October 31, 2017,³⁴ which allowed any free content published on LBRY Desktop to also be published and shared on Spee.ch. Images or videos published to Spee.ch were not just saved on the Spee.ch servers, but also written to the decentralized, user-controlled LBRY network. The result was that content was backed up by many other LBRY users, could be accessed by anyone in the world, and could not be erased or denied access to even if Spee.ch were to go down. Spee.ch was an entirely open-source application, so that anyone could make their own copy of it, as well as a copy of all of the content stored on the decentralized blockchain.

³³ <https://github.com/lbryio/lbry-android/releases/tag/0.8.0>

³⁴ <https://lbry.com/news/always-gif-responsibly>

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46. After over year and a half of work on expanding the features of Spee.ch, LBRY transitioned to developing LBRY.tv – a web-based blockchain-based browser. In September 2019, LBRY prepared for the soft launch of LBRY.tv with support for LBC wallet and content-related rewards functionality. LBRY.tv officially launched on January 31, 2020.³⁵
47. According to LBRY, LBRY.tv is a nearly feature-complete web version of LBRY desktop browser, with the inherited ability from Spee.ch to create a secure user publishing account that only the user has the ability to update or modify. The introduction of LBRY.tv allowed users to seamlessly migrate between web, desktop and mobile environments and use LBC cryptocurrency to view, publish, purchase, promote, comment on, support and tip for digital content that they found relevant. In parallel with LBRY.tv, LBRY also began working on a new version of a web-based browser called Odysee.com. The beta version of the latter was released in September 2020, and the official launch occurred in early December 2020.³⁶
48. As Exhibit 1C shows, on March 18, 2021, LBRY announced a forthcoming closure of LBRY.tv and encouraged users to migrate to Odysee.com.³⁷ LBRY.tv was officially retired on August 6, 2021.³⁸ The migration from LBRY.tv to Odysee.com was motivated by LBRY's desire to provide users with the most friendly environment and to enhance network effects for the benefit of everyone using the platform. Based on the community feedback, Odysee was considered to be a more user-friendly product, and, as a result, new users returned to Odysee at a rate much higher than LBRY.tv. LBRY also believed that content creators liked Odysee more and felt more comfortable linking and sharing Odysee than they did with

³⁵ <https://lbry.com/news/lbrytv>. Also see <https://lbry.com/news/dev-feb20>.

³⁶ <https://odysee.com/@lbry:3f/odysee:7a>

³⁷ <https://odysee.com/@lbry:3f/theendoflbrytv:0>. Also see Exhibit 1C.

³⁸ <https://odysee.com/@lbry:3f/retirement:8b>

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LBRY.tv. Finally, Odysee offered an improved search performance compared to the previous version of the web-based browser.

49. The information that the SEC provides in its own complaint is also supportive of the conclusion that LBRY's primary goal was to develop and make functional and user-friendly applications that platform customers could use to purchase and provide digital services on a peer-to-peer basis. According to the SEC, when the value of LBC declined at the end of 2016, LBRY stated on its publicly available website that the price of LBC "will go up when we've built a product that is compelling enough to change people's habits...[and that LBRY would be] focusing all of our efforts on creating a product that people will love and getting that product in front of the people that will love it."³⁹ In the same paragraph, the SEC goes on to enumerate multiple ways in which LBRY worked hard on the platform features to provide users with diverse, reliable and seamless digital services experience.⁴⁰ There is also no evidence to suggest that the LBRY team considered a longer-term appreciation of the price of LBC as anything other than a reasonable by-product of the growing usage of LBC as the platform cryptocurrency by an expanding user base.⁴¹

50. In summary, since the beginning of its efforts in the middle of 2016 and for the next five years, LBRY was focused on providing its users with a feature-rich, alternative, decentralized censorship-resistant implementation of a digital content sharing and publishing platform,

³⁹ Complaint, p.10.

⁴⁰ *Id.*, p.10.

⁴¹ An expected long-term market value appreciation of a platform cryptocurrency, such as LBC, used to execute peer-to-peer economic transactions, is also demonstrated by a growing body of academic research. For example, W. Cong *et. al.* (2020) develop an equilibrium model for a cryptocurrency and show that its market value is positively influenced by the platform's productivity (functionality), the related adoption rate, as well as endogenously growing user base. See Lin William Cong, Ye Li, and Neng Wang, *Tokenomics: Dynamic Adoption and Valuation*, NBER Working Paper 27222, May 2020, available at <http://www.nber.org/papers/w27222>.

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where users could seamlessly use LBC cryptocurrency to view, share and promote relevant information, as well as earn LBC as rewards for creating useful content, commenting on the content of others, and otherwise providing additional digital services in the LBRY ecosystem.

2. LBRY PUBLISHED EXTENSIVE GUIDES TO ENABLE CONTENT CREATORS AND CONSUMERS TO USE LBC TOKENS IN-APP

51. Since the project's inception in 2015, the LBRY team has consistently endeavored to ensure the accessibility of their platform. Even while the first LBRY Desktop application was in its Alpha stage, the LBRY team published informative material that detailed the publisher-patron relationship⁴² and organized media demos to show prospective users how to use LBRY applications.⁴³ This focus persisted as LBRY introduced new applications within its ecosystem. For example, LBRY created a specific channel on Odysee called "OdyseeHelp" which was dedicated to helping users understand how all the features available on other LBRY applications are accessible on Odysee.⁴⁴ LBRY's efforts to ensure broad accessibility have continued until the very recent past.

52. Along with these help sources, LBRY maintained a page on its website dedicated to answering frequently-asked questions and providing insight into almost every aspect of the LBRY protocol's utility and its unique elements.⁴⁵ On this website, users can find guides dedicated to subjects such as the Desktop Application, which details rewards, wallet capabilities, downloads, and searching for/blocking channels, among other items,⁴⁶ as well as

⁴² <https://lbry.com/news/introducing-lbry-the-bitcoin-of-content>

⁴³ <https://lbry.com/news/lbry-app-sneak-peak-big-questions-answered-lbry-on-blocktalk-last-night>

⁴⁴ <https://odysee.com/@OdyseeHelp:b>

⁴⁵ <https://lbry.com/faq>

⁴⁶ <https://lbry.com/faq/lbry-basics>

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a guide dedicated to helping users publish and profit off their content.⁴⁷ There are also help guides related to issues with starting up applications⁴⁸ and even guides pertaining to relevant legal regulations (such as the Digital Millennium Copyright Act) which provides information the type of content users can upload.⁴⁹ To give a more complete picture of the sheer breadth of user manuals provided by LBRY, I am listing additional guides in this footnote.⁵⁰

53. LBRY also ensured that prospective users had a clear understanding of how to install and run their applications. For instance, each application's respective Github page includes clear instructions related to the installation and usage of that particular application.⁵¹ There are also FAQ pages that explain some of the nuances (i.e., rewards, tipping, wallet integration) to help users acquaint themselves with the protocol.⁵² Additionally, LBRY consistently sought to make applications more intuitive for users. For example, multiple updates to application front-ends and new features have made it simpler for users to publish content and for viewers to access it.⁵³

54. In addition to guiding users on how to access the content-related digital services, LBRY also published content that allowed users to interact with and build upon the protocol. For example, on February 20, 2019, LBRY introduced lbry.tech, as well as released LBRY Spec. Lbry.tech is a central location where users can find "technical resources, protocol

⁴⁷ <https://lbry.com/faq/how-to-publish>

⁴⁸ <https://lbry.com/faq/startup-troubleshooting>

⁴⁹ <https://lbry.com/faq/dmca>

⁵⁰ <https://lbry.com/faq/what-is-lbry>, <https://lbry.com/faq/naming>, <https://lbry.com/faq/how-to-backup-wallet>, <https://lbry.com/faq/how-to-find-lbry-log-file>, <https://lbry.com/faq/lbry-directories>, <https://lbry.com/faq/how-to-publish>, <https://lbry.com/faq/invites>, <https://lbry.com/faq/content>, <https://lbry.com/faq/how-to-change-email>, <https://lbry.tech/resources/daemon-settings>.

⁵¹ <https://github.com/lbryio/lbry-desktop#install>

⁵² <https://lbry.com/faq>

⁵³ <https://lbry.com/news/ui-publishing-tools-upgrades>

specification, API documentation,” and other items relating to every aspect of the LBRY ecosystem, including the blockchain, data network, and various user-facing applications. As previously discussed, the LBRY Spec is a comprehensive document that discusses in detail what LBRY is, both from a broad purpose-based perspective and a more granular perspective concerning the technology underlying the platform, as well as the various functions (such as claims and supports) unique to LBRY.

3. LBRY WAS SUBSTANTIALLY FUNCTIONAL BY THE TIME OF THE FIRST TOKEN SALE

55. The first sales of a total of 1,049,996 LBCs out of the Operational Fund occurred in the third quarter of 2017 to fund the ongoing operations of the LBRY platform.⁵⁴ These sales on the open market occurred some time between July 5, 2017 and August 4, 2017.⁵⁵ It is important to note that the invite-only beta release of LBRY Desktop had occurred a full year prior to the first sale of LBC, while the open beta version of this core application of the LBRY platform was open to everyone and worked on all major computer operating systems as of July 31, 2017. In other words, before LBC was first sold on the open market through the two cryptocurrency exchanges Bittrex and Poloniex, the LBRY digital content publishing and sharing platform was already substantially functional from the perspective of intended user experiences.

56. For example, the number of cumulative publishes on the platform exceeded 60,000 by the end of July 2017, and had been on a healthy uptrend during the preceding four months.⁵⁶

⁵⁴ <https://lbry.com/credit-reports/2017-q3>.

⁵⁵ See LBRY explorer at <https://explorer.lbry.com/address/bRo4FEeqqxY7nWFANsZsuKEWByEgkvz8Qt>.

⁵⁶ <https://lbry.com/news/popup-open-beta>

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The cumulative number of addresses with non-zero LBC balances exceeded 70K by the end of that month⁵⁷, while the total number of created on-chain addresses approached 2MM.⁵⁸

The on-chain transaction volume representing user activity on the LBRY platform varied between 2.0MM and 9.9MM per day in June-July 2017 when measured by the number of LBC tokens, and between 3,201 and 14,336 daily when measured by the number of validated transactions.⁵⁹

4. LBRY PLATFORM USAGE CONSISTENTLY INCREASED IN RESPONSE TO THE DEPLOYMENT OF AND IMPROVEMENTS IN USER APPLICATIONS

57. As the capabilities of LBRY user-facing applications grew and LBC became increasingly usable for the purpose of creating, sharing and supporting digital content, so too did user participation and on-chain transaction volume, as well as LBRY browser activity.

Examining such activity is important because it reflects the true economic value of the LBC token to platform users as opposed to any intentions to resell the token on the secondary market to monetize potential investment gains.

58. Such information can be gleaned from various sources. According to a LBRY blog post dated January 31, 2018 that summarized the LBRY activity during the preceding year, over 200,000 people used the Spee.ch content sharing application at that time to access and publish free content; over 150,000 pieces of digital content was available on the network across multiple

⁵⁷ See Exhibit 2.

⁵⁸ See Exhibit 3.

⁵⁹ See Exhibit 4A. and Exhibit 6

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categories; and more than 5,000 YouTube contributors made their content available on LBRY, including dozens of top creators.⁶⁰

59. In 2018, the platform attracted an additional nearly 10,000 publishers in partnership with YouTube. Over 100,000 new users began using the LBRY Desktop browser, while the test version of the LBRY Android attracted over 20,000 customers. The amount of digital content available via LBRY increased more than four-fold from the preceding year to more than 600,000 items, and during December 2018 alone, more than 250,000 people accessed a piece of content via LBRY.⁶¹

60. As of February 2019, approximately 750,000 pieces of digital content had been published via the protocol,⁶² and by May 2020 the platform contained over 3.3 million pieces of published digital content.⁶³ In March 2020, LBRY attracted over 1 million unique visitors,⁶⁴ and in July of 2021 LBRY announced that over 1 million channels had been created.⁶⁵

61. Over the years, LBRY's content publishing and sharing platform has attracted various categories of users, including academic researchers. For example, Brendon J. Brewer, Senior Lecturer in the Department of Statistics at the University of Auckland has been publishing his research papers and lectures on the LBRY platform since at least June 2018⁶⁶ ⁶⁷. His research includes, among other topics, new proposed "trending" algorithms to more

⁶⁰ <https://lbry.com/news/lbry-in-2017-2018>

⁶¹ <https://lbry.com/news/lbry-in-2018-2019>

⁶² <https://spec.lbry.com/lbry-spec.pdf>.

⁶³ <https://lbry.tech/spec#status>

⁶⁴ <https://odysee.com/@lbry:3f/marchamillion:3>

⁶⁵ <https://odysee.com/@lbry:3f/1M:8e>

⁶⁶ <https://odysee.com/@BrendonBrewer:3/secondlaw:8>

⁶⁷ <https://brendonbrewer.com/research.html>

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accurately reflect the popularity of a given piece of digital content based on the blockchain data about the amount of LBC staked by other users to support such content.⁶⁸

62. In the remainder of this section, I examine data publicly available on the LBRY blockchain with respect to user activity and demonstrate that the economic usage of the platform for the purposes of publishing, viewing/purchasing, sharing and supporting digital content has consistently increased in terms of user addresses, usage of LBC tokens (on-chain transaction volume), as well as LBRY browser activity. Not surprisingly, usage of the native LBRY cryptocurrency by users was directly related to the enhanced capabilities of LBRY applications.

i. Number of Active Addresses and Rate of Address Creation

63. As Exhibit 2 demonstrates, the number of active LBRY addresses holding some LBC tokens increased from 8K at the end of 2016 to 145K one year later, then jumped nearly two-fold in 2018 to 288K, rose to 816K addresses at the end of 2019, and then increased 15-fold over the past two years to 12.3MM at the end of 2021.⁶⁹ Notably and expectedly, the number of users and new addresses increased particularly strongly in response to major introductions of new LBRY user applications with novel or expanded features.

64. In particular, as Exhibit 4A shows, the daily rate of new address creation jumped several times in July and August 2017 when the open-beta LBRY Desktop browser was released

⁶⁸ <https://odysee.com/@BrendonBrewer:3/trendingdraft:b>

⁶⁹ See Exhibit 2. The overall number of addresses, including those holding no LBC exceeded 60MM at the end of 2021. See Exhibit 3.

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and improved shortly thereafter especially in terms of LBRY wallet features. Address creation intensified again in the middle of December 2017 when live channel subscriptions was introduced and users could now purchase LBC coins directly in their wallets thanks to the integration with ShapeShift.⁷⁰ Another acceleration in the number of new addresses in September 2018 coincided with the release of the open-beta LBRY Android - the mobile version of the LBRY browser – on September 17, 2018.⁷¹

65. The speed of address creation accelerated again in late 2019 through January 2020 in the months leading up to first, a soft launch of, and then, an official release of LBRY.tv on January 31, 2020. As Exhibit 4B shows, users took a renewed interest in the LBRY platform in April – May 2020 when, first, the LBRY Hubble for Android version of the mobile browser with much improved performance and speed was released at the end of March 2020,⁷² and then, when paid content was introduced on LBRY.tv at the end of May, enabling creators to get rewarded for their efforts and the purchase rights recorded on the blockchain.⁷³

66. Finally, from the middle of September 2020 through early January 2021, new account creation on LBRY sharply intensified again, this time due to, first, a beta release of the Odysee web-based browser – a successor to LBRY.tv – on September 18, 2020,⁷⁴ and then, the official release of the browser in early December 2020.⁷⁵

⁷⁰ <https://lbry.com/news/lbry-shifting-into-high-gear>. Also see Exhibit 4A.

⁷¹ <https://lbry.com/news/lbry-in-your-pocket>

⁷² <https://odysee.com/@lbry:3f/android-hubble:a>

⁷³ <https://odysee.com/@lbry:3f/paid-content-beta:b>. Also see Exhibit 4B.

⁷⁴ <https://odysee.com/@lbry:3f/sayhitoodyssey:9>

⁷⁵ <https://odysee.com/@lbry:3f/odysee:7a>

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67. Based on this analysis, it becomes abundantly clear that the usage of the LBRY platform, as measured by the number of created addresses, was directly driven by users' ability to take advantage of new and improved capabilities with respect to the digital content provided by LBRY applications.

ii. On-Chain Transaction Volume

68. On-chain transaction activity, measured either in the number of native cryptocurrency tokens, or as a number of transactions, is the best way to gauge the utility value of a blockchain platform to its user base. I consider such on-chain transaction volume in contrast to the trading volume of LBC token on secondary market trading/exchange platforms, which reflects holders' need to access liquidity, express views on expected token price performance, or other reasons likely not related to publishing, purchasing and sharing digital content on the LBRY platform. In order to capture the economic activity of LBRY users, I remove from the on-chain transaction volume data the on-chain transactions of the LBRY Community Fund, Operational Fund, and Institutional Fund, with such data having been provided by CryptoCompare.com Such excluded transactions relate to LBRY sales of LBC on the market, distributions of LBC to employees, bounty and other payments to third party developers, as well as other kinds of operational, community-related and strategic partnerships-related distributions of LBC tokens.⁷⁶

⁷⁶ I use LBRY Quarterly Credit Reports and Sheets, available at <https://lbry.com/credit-reports> to remove such LBRY funds on-chain activity for the purpose of this analysis.⁷⁷ See Exhibits 5A and 5B.

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69. Exhibits 5A and 5B show that new or improved LBRY applications not only attracted new users to the platform, but also led to them using the LBC token more often for digital content services.⁷⁷ Just like the pace of daily address creation, daily on-chain transactional activity measured in the amount of LBC tokens significantly rose in the summer of 2017 in response to the launch of the open beta LBRY Desktop browser and then increased again in late 2017 – early 2018 when LBRY Desktop and LBRY wallet underwent substantial upgrades and new rewards were rolled out to incentivize content creation on the platform. The next major spike in daily on-chain activity came in late 2019 – January 2020, which was driven by the soft launch and then the official release of LBRY.tv.
70. 2020 saw significant improvements in the mobile LBRY Android browser and LBRY wallet, an introduction of paid digital content on the web-based LBRY.tv, and ultimately the release of the Odysee web-based platform. In response, the daily on-chain usage of the LBC token for digital services rose significantly in the spring and early summer of 2020, and then again in the fourth quarter of 2020.
71. To ensure that my findings on the responsiveness of LBC on-chain usage to new and improved applications are not distorted by a few large on-chain transactions, I also examined the on-chain activity when measured by daily transaction count instead of LBC token count. Exhibit 6 shows that the direct relationship between user application features and the volume of activity on-chain remains intact: people create, share and consume digital content more often, creating more demand for the platform currency LBC.⁷⁸

⁷⁷ See Exhibits 5A and 5B.

⁷⁸ See Exhibit 6.

iii. LBRY Browser Activity

72. A review of data on user activity on LBRY browser applications provides an application-layer snapshot of the popularity and usability of the platform. Lbrynomics.com - a data site independent of LBRY and unaffiliated with the LBRY team – tracks various metrics of user activity. At the content channel level, these metrics include the amount of tips received and staked support in terms of LBCs, the number of followers, views, reposts and likes. At the platform level, the site also tracks the number of publications, the amount of paid content purchases, as well as the aggregate amount of LBC tokens locked to support content of others.

73. Based on the Lbrynomics.com data, the usage of the LBRY platform has been on an accelerated uptrend since the release of LBRY.tv in January 2020 and the launch of Odysee in Q4 of 2020. According to TechCrunch review as of December 7, 2020, since the release of the Odysee beta version in September 2020, more than 400,000 people had posted a total of 5 million videos to the site, and as of early December 2020 - Odysee official launch – the platform was already attracting 8.7 million monthly active users.⁷⁹ A little over a year later, as of early January 2022, the total number of publications has reached nearly 16 million. At the moment, close to 53.1 million LBC tokens are staked in support of specific digital content, while purchases of paid digital content has exceeded 310K LBC.⁸⁰

74. Multiple content channels unaffiliated with LBRY have seen a significant rise in popularity over the past two years, with top channels accumulating anywhere between 400K and 900K

⁷⁹ <https://techcrunch.com/2020/12/07/odysee-launch/>

⁸⁰ Source: <https://lbrynomics.com/#data|2>, All Time Graphs “Number of Publications”; “LBCs Locked in Active Boosts”; “Purchases Total”.

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of LBC in the form of tips and staked support and having follower bases in excess of 100K viewers.⁸¹

C. THE ECONOMIC USES OF LBC

75. LBRY has described itself as “a community-driven YouTube alternative.” LBRY pricing is at the discretion of the creator, and 100% of that price goes to the creator. Since the LBRY platform uses LBC as its form of digital currency, creator can receive “micropayments for every view without worrying about credit card processing fees.”⁸² In addition to enabling paid content on the LBRY platform (effectively a marketplace for digital content), there are multiple other ways in which users and creators can send and receive LBC while using LBRY. For example, users can tip content creators, stake content to boost its visibility on the platform, receive rewards, and receive LBC in other ways through interacting with the LBRY ecosystem.

1. TIPPING CONTENT CREATORS WITH LBC

76. The monetization of content is an important advantage of LBRY from a publisher’s perspective, and tips from other users who like a given video or a post is one of the principal ways for creators to be rewarded for their work.⁸³ Tips are sent to content creators in the form of LBC tokens, and users can support creators by sending any desired tip amount of LBC straight to the creator’s wallet. Tips are a type of LBC support transaction that are

⁸¹ Source: https://lbrynomics.com/data/interactive_parts.html, Charts “LBC”; “Followers”

⁸² <https://lbry.com/faq/earn-income>

⁸³ <https://odysee.com/@OdyseeHelp:b/Monetization-of-Content:3>. Content creation rewards from LBRY, as well as site/app promotions are the two other channels incentivizing creative content contributions.

permanently sent to the creator and recorded on the blockchain. If unlocked, tips may be used by the recipient outside of the LBRY platform; for instance, they may be sold on an exchange, for fiat or another cryptocurrency. However, LBRY encourages the content creators to re-use these tip tokens on the platform to raise the visibility of their own content, or to support the creativity of others.

2. BOOSTING AND STAKING CONTENT WITH LBC

77. Staking or supporting content with LBC, either your own or that of others, allows for the content to have greater visibility on the LBRY platform. On the LBRY platform, the trending tab displays publications that have the greatest increase in tips and supports over the last few hours and days, compared to its baseline performance, or other published pieces.⁸⁴ Users can support creators and help them appear on such trending tabs or community-controlled URL names, through the transaction of “boosting.” Staking a certain number of LBC tokens to “boost” someone else’s content supports trust and performance but does not permanently give anything to the publisher. Unlike tips, LBC stake is a revokable support. The supporter can keep his LBC staked as long as he likes or revoke them anytime via the LBRY wallet application. Creators are eligible to boost their own content, as well. Tips that creators have received, if they remain staked and not unlocked from the wallet, act as a boost to the creator’s content. In summary, via the mechanism of support stakes, LBC serves as an instrument to

⁸⁴ <https://lbry.com/faq/trending>

help digital content perform better in search results, appear higher in the list of top and trending publishes, or at the community-controlled names.

3. PURCHASE OF DIGITAL CONTENT USING LBC

78. As LBRY was introducing paid content on its web-based browser LBRY.tv in May of 2020,

it highlighted several economic benefits of spending LBC on purchasing digital content.⁸⁵

First, all purchases and the rights to the purchased media are recorded permanently on the LBRY blockchain. Second, 100% of the paid price goes to the publisher, as opposed to instances of traditional centralized streaming platforms which retain up to 30% of the paid price for themselves. Third, users retain the right to “access the purchased data from anyone on the LBRY network, not just LBRY inc.”⁸⁶ Finally, a decentralized, paid-for content model eliminates a content creator’s vulnerability to so-called demonetization, which occurs on centralized media platforms that may choose to deny the author revenue from paid ads or subject the latter to unfair or targeted censorship.

79. In addition to paying for data, publications and media with LBC, a rather unique element of LBRY is that it allows users the ability to purchase a LBRY name using LBC.⁸⁷ On other media platforms, the URLs at which publishers’ content can be found are often arbitrary and completely uninformative. On LBRY, publishers can pay for “names” (that serve as the URLs for their content) that are as simple or as complex as they desire. Moreover, publishers retain the right to the purchased name permanently (unless they are eventually outbid for the same name) and can upload multiple pieces of content under the same name. Additional benefits

⁸⁵ <https://odysee.com/@lbry:3f/paid-content-beta:b>

⁸⁶ *Id.*

⁸⁷ <https://lbry.com/faq/naming>

of such a naming system are that publishers can make their content easier to discover by linking it to a predictable name or that users can outbid one another for specific names if they feel it is ill-suited to the content currently published under that name (potentially even in a collective manner).

4. LBRY ENCOURAGED USERS TO USE LBC TOKENS ON-CHAIN BY DESIGN

80. Aside from publishing paid content, receiving tips, or contributing to the community as a developer or a tester, LBRY users could also receive LBC rewards in several other ways. For example, users could earn rewards “for having other users...follow your channels.”⁸⁸ LBRY users could also receive LBC as a referral bonus for inviting new users to sign up for and use LBRY.⁸⁹ This system of rewards was built to incentivize users to stake more LBC in support of their own content and the content of others to raise their own standing in the community.
81. Rewards to a creator for views of its content are decided based on metrics such as the user’s average watch-time, average view count, the types of content being viewed, the creator’s level of engagement, the creator’s location, among other things. Thus, publishers who have been active in engaging with other users and publishers, and who are more generous with their LBC in terms of supporting and tipping content, are more likely to accrue greater rewards through view-based rewards.
82. Tips received by a publisher on its content are also a function of his willingness to spend and stake LBC. Tips depend on content visibility which can be raised in several ways. First, a

⁸⁸ <https://odysee.com/@OdyseeHelp:b/rewards-verification:3>

⁸⁹ <https://lbry.com/faq/invites>

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publisher can “support” their own content through staking LBC and tips already received to boost its popularity and visibility.⁹⁰ Second, to publish content, a user must first choose a “name” (which essentially serves as a URL). It is desirable to choose a more fitting name which will likely result in better discovery of the content (and more tips), but if the name has already been chosen by another publisher, the user must outbid him in LBC terms to acquire the rights to that name. Either way, to get more tips for created content, a publisher must spend more LBC, both initially and on an ongoing basis, to boost the visibility of such content within the community.

83. Existing LBRY users can also receive LBC as a referral bonus for inviting new users to join the platform.⁹¹ If a new user joins the LBRY platform, both the inviter and invitee become eligible for a reward. The initial limit for claimable invites is 20, but this limit increases, and potential invite rewards rise, as a user engages with LBRY more often and as their channel grows in popularity. But making one’s channel more popular also depends on one’s willingness to stake LBCs on the platform.

84. In addition to the “use-your-LBC-in-house” design of the rewards system, the LBRY team also encouraged users to recycle received tip payments on the LBRY platform instead of “unlocking” them and taking them outside of the ecosystem. Unlike staked support, received tips are earned permanently, and tip recipients can either choose to keep tips staked to boost their own published content/channel or “unlock” them and move them to their wallet balance.⁹² LBRY encouraged users to only unlock tips if they needed to spend LBC and

⁹⁰ <https://lbry.com/faq/how-to-publish>

⁹¹ <https://lbry.com/faq/invites>

⁹² <https://lbry.com/faq/tipping>

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emphasized the downside of unlocking tips, namely that, it would reduce the publisher's content or channel visibility in search results, trending, and discovery mechanisms. For instance, LBRY stated that "[o]nce unlocked, we encourage you to re-support your channel or recent content, as having an available balance means your Credits aren't being put to good use!"⁹³ Implicitly, unlocking accumulated tips could reduce a publisher's prospects of earning future tips. Not surprisingly, LBRY recommended to content creators to "never unlock more than half of the LBC on content that is performing well" and to "never go below 10 LBC on a piece of content you want to continue to get views."⁹⁴

85. LBRY also paid close attention to the usage of LBC within the LBRY "economy", recognizing the importance of the native cryptocurrency for the growth of the ecosystem network effects. For example, in October 2020, LBRY took notice of certain trends related to the LBC "economy". It was noted that while usage of the platform had grown consistently in terms of publishing and views, LBC usage in terms of supporting content had stagnated.⁹⁵ As LBRY believed that "the ability to create a compelling token economy centered around digital content exchange is imminently achievable", it made tangible changes to encourage higher on-chain usage of LBC. These changes included: (1) scaling down pre-scheduled LBC rewards for creators who simply have large followings in favor of giving greater rewards to creators who consistently publish longer content and earn more views⁹⁶; (2) bringing LBC credits and associated features such as staking and unlocking to the web-based Odysee browser in order to promote more widespread LBC usage across various platforms; (3)

⁹³ *Id.*

⁹⁴ <https://lbry.com/faq/tipping#guidelines>

⁹⁵ <https://odysee.com/@lbry:3f/lbryeconomy2020:5>

⁹⁶ <https://odysee.com/@lbry:3f/creatorrewards2020:3>

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altering software to provide better feedback on channels tipped or staking; (4) offering custom features such as rewards for staking and consistently supporting content; (5) providing additional features and product development input for channels with certain staking thresholds; (6) creating new economic incentives for users to keep tokens actively staked on channels and content in the form of a large LBC pool and various bonuses that may be dispersed in a scaling manner based on the success of a creator or the amount a person has staked to creators; and (7) developing relationships with advertisers to integrate advertising as an optional compensation mechanism into the protocol. Each of these changes was designed to promote users to actively use LBCs on-chain as opposed to simply holding or trading their token for monetary gains.

5. LBC HOLDERS USED LBC TOKEN AS THE LBRY PLATFORM CURRENCY MUCH MORE THAN AS AN INVESTMENT AND TRADING ASSET

86. The diverse set of non-investment uses of LBC as currency on the LBRY platform, coupled with the incentive mechanism designed to recycle and accumulate LBC in-app and consistently improving user applications, is consistent with the evidence that over the past five years the volume of economic activity on-chain significantly exceeded the LBC trading volume on secondary market trading platforms. In other words, since the inception of the decentralized digital media publishing and sharing platform in 2016, the majority of LBC token holders viewed this token primarily as the LBRY platform native currency, and not as an investment asset held for speculative profits.

87. Exhibits 7A and 7B plot daily on-chain transaction volume, unrelated to LBRY addresses, as expressed in the number of LBC tokens vs daily trading volume of these LBC tokens on the

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secondary cryptocurrency market.⁹⁷ It is apparent that on-chain activity often surpassed the LBC trading volume on cryptocurrency exchanges, and such differential became more substantial starting from early 2020. Exhibit 8 further demonstrates that on-chain transaction activity on a year-over-year basis, when measured by the number of LBC tokens, exceeded secondary market (off-chain) trading volume in 2016 and in 2020-2021.⁹⁸ The impressive dominance of non-investment, consumptive activity in LBC in 2020-2021 is not surprising given that major new user applications such as LBRY.tv and Odysee.com came into existence during that period of time. Notably, despite the SEC legal action in late March of 2021 the on-chain economic activity on the LBRY network remained high between 2020 and 2021. Granted, the functioning of LBC as a digital services currency could not keep up pace with the skyrocketing trading activity during the formation and spectacular burst of the general cryptocurrency bubble of 2017-2018, but overall, the cumulative on-chain activity in LBC exceeded the trading volume in this token by more than two-fold (with an on-chain to off-chain volume ratio of 2.04) since the LBRY blockchain went live.

88. It is instructive to note that this ratio of 2.04 for LBC is materially higher than the ratio of 1.35 for the second largest cryptocurrency, ETH during the same time period of the middle of 2016 to 2021, when comparing ETH trading volume on centralized cryptocurrency exchanges to Decentralized Finance protocols.⁹⁹ And yet ETH is widely touted as the future of decentralized consumer applications in multiple sectors, from securitization and asset tokenization to gaming, collectible art, finance and so-called Metaverse, and it is officially

⁹⁷ See Exhibits 7A and 7B.

⁹⁸ See Exhibit 8.

⁹⁹ See Exhibit 9.

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considered not to be a security, presumably due to its perceived decentralization and focus on consumer applications.¹⁰⁰

89. Exhibit 9 shows that the ratio of on-chain transaction volume over the secondary market trading volume for LBC is also higher than for Bitcoin. It is worth noting that these comparisons are likely to be even more favorable to the LBC token than they appear because, unlike in the case of LBC, I do not remove from the ETH and BTC on-chain transaction activity those transactions which simply facilitate someone's trading-related activity in these cryptocurrencies. These would include, for instance, on-chain deposits of ETH or BTC at deposit addresses at crypto exchanges for the purpose of selling them, or withdrawals of ETH or BTC from a hot wallet of an exchange to an on-chain address or a deposit address at another exchange. At any rate, the data reveals that LBC token holders apparently strongly preferred using LBC tokens within LBRY applications to consume digital content services as opposed to trading them in the secondary market to achieve speculative investment gains – and more so than holders of BTC or ETH.

D. LBRY WAS FOCUSED ON DECENTRALIZATION AND COMMUNITY DEVELOPMENT

90. The LBRY team was focused on the long-term success of the platform, and clearly recognized that such success could only materialize if a robust decentralized community of digital content publishers and consumers, on the one hand, and independent application developers, on the other, were to use and build a growing and diverse set of tools to interact with digital media,

¹⁰⁰ William Hinman, Director of the Division of Corporation Finance at the SEC said in a 2018 speech that “current offers and sales of Ether are not securities transactions.” See <https://www.sec.gov/news/speech/speech-hinman-061418>

powered by the LBC cryptocurrency. In this section, I examine how LBRY worked to bootstrap a rich LBC ecosystem characterized by strong network effects.

1. NETWORK EFFECTS ARE CRITICAL FOR THE SUCCESS OF A SOCIAL MEDIA PLATFORM

91. Network effects, or the idea that that “the value of a product or service increases with the number of users” are critically important for a permissionless blockchain for two reasons.¹⁰¹ First, the security of PoW protocols like Bitcoin and LBRY is achieved by making computational power a limited and expensive resource for each of the participants. The blockchain is secure so long as no malicious participant has too much computational power; specifically, at least half of the total computational power of all the validators combined. In a large network with many participants, buying enough computational power to launch a successful attack on the network is prohibitively costly, hence attacks become less and less likely as the network grows.
92. Second, aside from any blockchain security considerations, users are generally attracted to blockchains with a large existing community of users with whom they can interact. This is an example of so-called “Metcalfe’s Law,”¹⁰² and blockchains with larger user bases are thus those that are more likely to continue to grow.¹⁰³
93. For a decentralized digital content publishing and sharing platform with no central authority and no commercial advertisements-driven revenue sources like LBRY, network effects are particularly crucial. Paid content revenue, tips, and rewards for community participation, and

¹⁰¹ Gandai, Neal and Hanna Halaburda (2016). *Can We Predict the Winner in a Market with Network Effects? Competition in Cryptocurrency Market*, Games, 7(3).

¹⁰² Metcalfe’s Law represents a “rule of thumb” asserting that the value of a network is proportional to the square of the number of users.

¹⁰³ For example, see “Metcalfe’s law, Web 2.0, and the Semantic Web.” by Hendler, James, and Jennifer Golbeck in the *Journal of Web Semantics* (2008), or “Tencent and Facebook data validate Metcalfe’s law.” by Zhang, Xing-Zhou, Jing-Jie Liu, and Zhi-Wei Xu in the *Journal of Computer Science and Technology* (2015).

hence any incentive to generate more desirable content, are all generated within the ecosystem and solely through the interactions of its participants with functional and user-friendly applications. Thus, a growing user base, aided by functional applications, including those deployed by third parties, is the sole recipe of long-term success of the LBRY network.

2. THE PRE-MINED COMMUNITY FUND WAS USED TO BOOTSTRAP THE PLATFORM AND BOOST LBRY NETWORK EFFECTS

94. Of the 400 million pre-mined LBCs, 200 million were placed into the ‘Community Fund’.

The purpose of this fund was to encourage the “usage and adoption of the LBRY protocol”.¹⁰⁴

Broadly, LBRY stated that the fund’s principal uses were envisioned to include “seeding customers with initial Credits, recruiting [content] producers to use LBRY, encouraging all users to share LBRY and invite friends” and “rewarding community contributors”.¹⁰⁵ LBRY estimated this fund to have a dispersal period of close to ten years.

95. LBRY was very transparent about the intended and actual usage of LBC funds, and it published regular Quarterly Credit Reports on its website detailing distributions of LBC tokens, including those from the Community Fund.¹⁰⁶ The use of the Community Fund evolved over time. In 2016 and 2017, much of the LBC distributions from the fund were used to incentivize new users to sign up for the platform and begin publishing content,¹⁰⁷ and to encourage users to make technical contributions to the protocol through the fulfillment of various bounties.¹⁰⁸ In the more recent past, while the Community Fund continued to be used

¹⁰⁴ <https://lbry.com/faq/credit-policy>

¹⁰⁵ *Id.*

¹⁰⁶ See <https://lbry.com/credit-reports>

¹⁰⁷ <https://lbry.com/credit-reports/2016-q2>

¹⁰⁸ <https://lbry.com/news/lbry-bounties>

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for these purposes, a larger share of LBC tokens has been allocated to other ways of growing the LBRY ecosystem. Starting in the second half of 2018, more LBCs were granted to the LBRY.fund, an entity, governed by the LBRY Foundation, through which users could submit concrete proposals for applications to be built on or for the LBRY protocol. User proposals could include such examples as building a web project, a classroom project/lesson plan, developing a mobile application, extending the LBRY Apps or services in some way, or the user's own creative idea on how to use LBRY in a novel way. Selected proposals were funded with granted LBC. In 2018, over \$60,000 worth of LBC was given to such projects.¹⁰⁹

96. In 2019, a significant share of LBC from the Community Fund went to Swarm activities.¹¹⁰

The Swarm is a collection of various user "hives" that are created based on geographic location and/or group interest.¹¹¹ LBC distributions from the Community Fund were used to support hive activities. For example, such funds helped the LBRY China Hive attend the Blockchain World Forum Conference in Shenzhen in September 2019¹¹², and in November 2019, a grant was given to a LBRY employee to visit Ghana and spread awareness about the protocol in that country.¹¹³

97. Rewards granted to LBRY platform users for viewing and publishing content, supporting/staking the content of others, making efforts to elevate the user's own content, as well as inviting friend to the ecosystem, also constituted a substantial portion of the Community Fund LBCs that were granted to the community to boost the network effects.

¹⁰⁹ <https://lbry.com/news/jan-community>

¹¹⁰ <https://lbry.com/credit-reports/2019-q4>

¹¹¹ <https://lbry.com/news/swarm-intro>

¹¹² <https://lbry.com/news/comm-report-2019-09>

¹¹³ <https://lbry.com/news/comm-2019-11>

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Such distributions started in the summer of 2017 and became more consistent quarter after quarter starting from the spring of 2019.

98. Exhibits 10A and 10B break down the total distributions of LBCs in the Community Fund in percentage terms, and the quantity of LBC, respectively.¹¹⁴ Between Q2 2016 and Q4 2020 (the last available Quarterly Credit Report), 56% of the Community Fund's LBC tokens, or 112.5MM, were distributed to the community to build the network effects of the platform. Of this total, 65.7% were granted to users as rewards for contributing to the information publishing and sharing activities. Another 10.2% went to new user/creator incentives, 8.1% was allocated to third-party group projects, and 4.6% was spent on bounties and other forms of third-party contributory development activities. Thus, through various forms of user and third-party engagement, Community Fund LBC holdings were used to build long-term network effects of the LBRY social media platform.

3. THIRD-PARTY DEVELOPMENT ACTIVITY PLAYED AN IMPORTANT ROLE IN THE EVOLUTION OF THE LBRY ECOSYSTEM

99. The LBRY ecosystem has built a strong and vibrant community of content creators, viewers, and developers. While the LBRY team played an integral role in the development activity and evolution of the LBRY platform user capabilities, the role of community developers and open-source contributions must not be overlooked. Notably, LBRY has taken all necessary steps to enable the community to meaningfully contribute to the overall LBRY ecosystem. Developer community contributions are two-fold: LBRY enables the community to build

¹¹⁴ See Exhibits 10A and 10B.

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tools and services on top of the underlying LBRY platform, as well as make updates to key codebases that power the underlying functionality.

100. Through Lbry.tech, users can view various documents that enable them to interact with practically any component of the LBRY Ecosystem. These include items that detail the application programming interfaces (APIs) for the LBRY Blockchain¹¹⁵ and software development kits (SDKs) that allow anyone to build applications on the LBRY platform.¹¹⁶ These are accompanied by other manual-like documentation such as the ‘Builder’s Guide’¹¹⁷, ‘Contributor’s Guide’¹¹⁸, and various other resources (including ‘Developer Setup Intro Videos’¹¹⁹ that serve as user-guides for all user-facing LBRY applications. LBRY has also created a *Playground*, where developers and users may interact with the LBRY protocol in an experimental fashion, such that they may get a feel for the platform before committing their code and/or applications.¹²⁰

101. The official LBRY Github contains all publicly available key codebases that power the LBRY platform.¹²¹ LBRY team and community members maintain the ability to update these codebases through *commits* after a peer review process. In addition, the LBRY Foundation’s Github page contains a complete list of community-run projects built on and/or for the LBRY protocol.¹²² At the time of writing this report, there are 41 completed projects relating to LBRY clients, web-based front-ends, tools, application bots and add-ons, scripts/one-purpose

¹¹⁵ <https://lbry.tech/api/blockchain>

¹¹⁶ <https://lbry.tech/api/sdk>

¹¹⁷ https://lbry.tech/build?_ga=2.24267834.1489267905.1642443208-460409492.1641313094

¹¹⁸ https://lbry.tech/contribute?_ga=2.97652127.1489267905.1642443208-460409492.1641313094#testing

¹¹⁹ <https://lbry.tech/resources>

¹²⁰ https://lbry.tech/playground?_ga=2.67186065.1489267905.1642443208-460409492.1641313094

¹²¹ <https://github.com/lbryio>

¹²² <https://github.com/LBRYFoundation/Awesome-LBRY>

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applications, analytics, LBRY infrastructure monitoring, browser extensions, LBC wallets, and LBC mining pools. There are also user-run projects not officially associated with LBRY but based entirely upon the UI code that powers the official LBRY applications. An example is a ‘Community Edition’ of the LBRY desktop app, which is essentially a replication of the official LBRY app with minor adjustments.¹²³ The fact that such a project exists suggests that LBRY has demonstrably ensured that their open-source code is easily accessed, understood, replicated, and built upon by publishers and consumers alike.

E. LBC TOKEN PRICE WAS INFLUENCED BY ON-CHAIN TRANSACTION ACTIVITY AND GENERAL CRYPTOCURRENCY MARKET, AND NOT BY THE LBRY TEAM

102. The SEC complaint alleges that the LBC token price and expected profits from its resale were controlled by the efforts of the LBRY team. In this section of the report I examine the available data and also perform commonly accepted statistical tests and establish that: (1) LBRY team announcements did not have any discernible impact on LBC price, (2) LBC token value accrued to the functional utility of the user applications and underlying LBRY blockchain, and (3) LBC price is also driven by the general cryptocurrency market, as represented by the largest non-security cryptocurrency, Bitcoin (BTC).

¹²³ <https://github.com/lbry-foss/lbry-desktop>

1. LBRY TEAM ANNOUNCEMENTS HAD NO DISCERNIBLE IMPACT ON LBC PRICE

103. To test whether the LBRY team had any control over the LBC price, I isolated 19 LBRY announcements relating to the overall strategy for the project as envisioned by the LBRY team. These announcements were identified over the time period when data on LBC prices was available. Such announcements were related to senior staffing and leadership issues, strategic plans and roadmaps, strategic partnerships pursued by the team, company and initiative funding, as well as recaps by the LBRY team of the past progress and challenges ahead. This observation set excluded announcements related to specific applications and platform technical improvements/new features which directly affected the economic utility of LBC cryptocurrency and its usability on the LBRY platform.

104. Following a widely accepted statistical procedure, I estimated LBC abnormal returns around the LBRY team announcement dates after adjusting for the Bitcoin price change (used as the proxy for the overall cryptocurrency market), and then established whether such abnormal returns were statistically significant at 5% significance level.¹²⁴ In this analysis I use three-day LBC price returns centered around the announcement dates to capture possible leads or lags in the informational impact on the price.

105. Exhibit 11 demonstrates the results of the analysis.¹²⁵ First, surprisingly, more than half of such announcements were associated with negative abnormal returns for LBC. More importantly, aside from one exception related more to Steemit social media website based on

¹²⁴ Abnormal returns are computed as the difference between observed 3-day LBC price returns and LBC returns predicted from the ordinary least squares regression which uses BTC returns as the market factor.

¹²⁵ See Exhibit 11.

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Steem blockchain than to LBRY, there is no evidence of and statistically significant influence that LBRY team announcements had on LBC price.

2. LBRY TEAM DID NOT PROMOTE SECONDARY TRADING IN LBC TOKEN TO LBRY USERS

106. I have found no evidence that LBRY actively promoted the secondary trading of LBC tokens to the platform user base. As has been shown earlier in this report, LBRY instead consistently encouraged users to spend their LBC tokens on-chain or to keep them locked in stakes and supports of the digital content. LBRY's stance on this issue has not been influenced by market forces. In fact, after a period of heightened LBC price, LBRY stated: "LBRY Credits have already experienced a bubble, and we paid it no mind. LBRY is a real software with a live blockchain and hundreds of thousands active users. Our goal is to increase the long-term value of the protocol, which if adopted globally, will make our reserve many times more valuable than any short-term bubble. We're patient and focused on the future."¹²⁶

107. Evidently, LBRY's foremost priority was to develop an extended network of users that used the LBRY protocol for its designated economic purpose. Any effect on the price of LBC was viewed as the natural consequence of that development, and, based on the information available to me, at no point did the LBRY tout to users a potential to profit from reselling LBC in the secondary market.

108. Further evidence that LBRY was not focused on the secondary trading of LBC tokens can be seen from the fact that LBC tokens are traded on a very small number of exchanges. As

¹²⁶ <https://lbry.com/faq/lbry-revenue>

per LBRY's website, LBC is traded on Bittrex (outside of the U.S.), MXC, BitMart, Lbank, Hotbit, CoinEx, and BigONE.¹²⁷ It is only traded in one pair (LBC/USDT) on all these exchanges except for Bittrex and MXC. Until early 2020, LBC only traded against BTC and at present, LBC only trades in two additional pairs (USD and USDT).¹²⁸ In sum, very few listed trading pairs for LBC are available for trading on very few exchanges more than six years after the start of the project.

109. On December 11, 2017, LBRY released an update to its desktop application that introduced 'ShapeShift' integration into the platform.¹²⁹ ShapeShift is a decentralized crypto exchange protocol which allowed LBRY platform users to convert other popular cryptocurrencies into LBC through the convenience of their LBRY wallet, without leaving the LBRY Desktop browser and without going through the trouble of making such conversion on a few available centralized exchanges. The integration with ShapeShift was not aimed at promoting secondary trading or profit taking in LBCs, but rather at making the experience of using the LBC token on the LBRY platform simpler and more user friendly. In fact, when LBRY first partnered with ShapeShift in August 2016, it pursued a significant advantage of a more "handy method of payment" as content consumers would "now be able to acquire LBC to make purchases on LBRY easily."¹³⁰ Thus, the express purpose of ShapeShift integration was to facilitate increased *on-chain* spending of LBC tokens by LBRY users, as opposed to trading those tokens on secondary markets for profit.

¹²⁷ <https://lbry.com/faq/exchanges>

¹²⁸ Source: [Cryptocompare.com](https://cryptocompare.com) data

¹²⁹ <https://lbry.com/news/lbry-shifting-into-high-gear>

¹³⁰ <https://lbry.com/news/shapeshift-adds-lbc>

3. LBC PRICE RESPONDED POSITIVELY TO LBRY PLATFORM UTILITY IMPROVEMENTS

110. I have examined the LBC pricing data to establish whether announcements about new user applications or improvements in the existing LBRY applications and platform features (protocol utility-related announcements), which resulted in increased on-chain transaction activity, also had a noticeable impact on the LBC token price. Exhibit 12 contains the history of major platform utility-related announcements by LBRY which either introduced new user applications, such as LBRY Desktop, LBRY Android, LBRY.tv, or Odysee, or informed the users about new features/upgrades of existing applications, as well as additional ways to use and earn LBC inside the LBRY platform (live channel subscriptions, paid content, creator rewards, etc.).¹³¹ The data shows that such announcements were associated with positive LBC price reactions, with daily returns on such days varying between 2.1% and 27.9%.

111. This analysis is incomplete, however, to the extent that it does not take into account the influence of movements in the general cryptocurrency market on LBC price returns. Therefore, I apply the same statistical event study approach as used before in the analysis of the LBC price impact from the LBRY team announcements (see Exhibit 11) to estimate LBC abnormal returns around the announcement dates after adjusting for the Bitcoin price returns (used as the proxy for the overall cryptocurrency market), and then to establish whether such abnormal returns are statistically significant at 5% significance level or not. In this analysis I use three-day LBC price returns centered around the announcement dates to capture possible leads or lags in the informational impact on the price, and I perform the event study on a

¹³¹ See Exhibit 12.

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broader set of 54 announcements reflecting new or improved user application features, or new economic use cases for LBC¹³². As Exhibit 13 demonstrates, there are multiple instances where LBC abnormal positive returns due to the news of enhanced LBRY platform utility are statistically significant.¹³³

112. In summary, the data seems to suggest that the primary source of value (as reflected in its price) of the LBC cryptocurrency to the LBRY user base resided in the token's economic utility within the LBRY social media platform which in turn grew together with user applications and features.

4. LBC PRICE IS DRIVEN BY THE GENERAL CRYPTOCURRENCY MARKET

113. My estimation of the empirical relationship between LBC price returns and two types of public LBRY announcements in this section of the report (platform utility-related announcements vs announcements by the LBRY team) is based on the widely accepted regression analysis where LBC price returns are adjusted for the contemporaneous returns of the general cryptocurrency market. Bitcoin is by far the largest and most established cryptocurrency, claiming anywhere between 35% and 65% of the aggregate market value of the cryptocurrency market between 2017 and today. Hence, I use Bitcoin as a proxy for the cryptocurrency market in my empirical event study.
114. Regression estimated coefficient on BTC price returns explanatory variable measures the numerical impact of BTC price change on LBC price, whereas the t-statistic of the coefficient

¹³² This set of 54 announcements is determined over the period of time when the historical price information for LBC is available.

¹³³ See Exhibit 13.

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reflects the reliability of a relationship between Bitcoin and LBC. Exhibit 14 demonstrates that over the past five years, the LBC price return sensitivities with respect to BTC price returns varied between 0.60 and 1.61, indicating a positive relationship between BTC and LBC price returns.¹³⁴ Moreover, t-statistics show that the general cryptocurrency market, as proxied by Bitcoin, has been and remains the highly statistically significant driving factor behind the LBC price behavior.

VI. SUMMARY

115. Based on my review of the case materials, publicly available data, and my analysis of the LBRY on-chain transaction activity and secondary market trading volumes, I conclude that the LBC token represents primarily a native medium of exchange/currency on the decentralized LBRY social media and data sharing network rather than an investment instrument aimed at achieving resale profits. I also conclude that the LBC price behavior is not controlled/influenced by the LBRY team, but is rather determined by the utility of and the associated volume of user economic activity on the LBRY blockchain, and general cryptocurrency market forces.

Respectfully submitted,

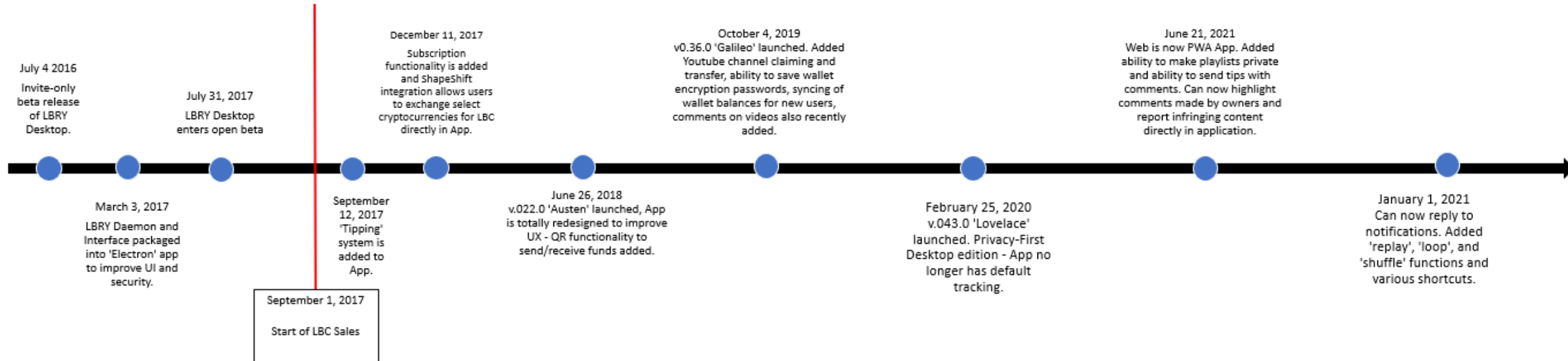


February 4, 2022

Dr. Boris M. Richard

¹³⁴ See Exhibit 14.

Exhibit #1A – LBRY Desktop Application Development Timeline



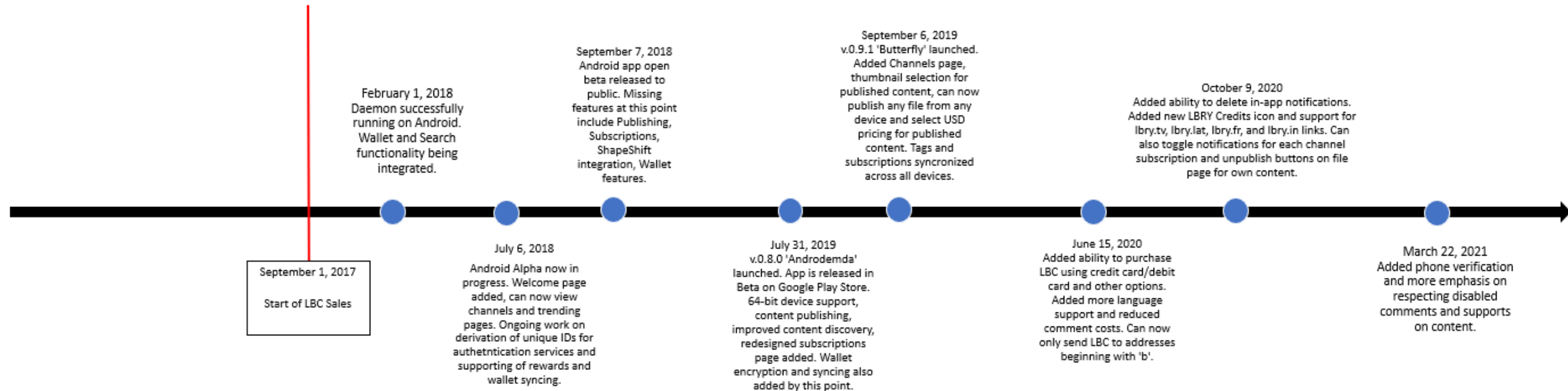
Sources:

LBRY Development Updates. Available at: <https://lbry.com/news/category/community-update>

Updates Published via LBRY Odysee Page. Available at: <https://odysee.com/@lbry:3f>

LBRY Desktop App 'Releases' Github Page. Available at: <https://github.com/lbry-foss/lbry-desktop/releases>

Exhibit #1B – LBRY Android Application Development Timeline



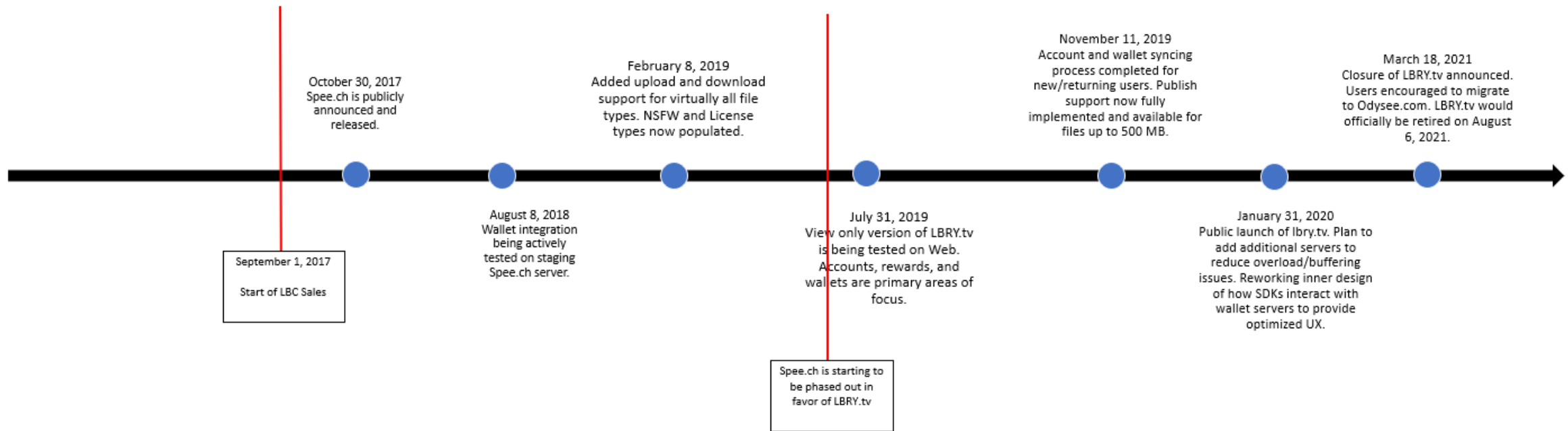
Sources:

LBRY Development Updates. Available at: <https://lbry.com/news/category/community-update>

Updates Published via LBRY Odysee Page. Available at: <https://odysee.com/@lbry:3f>

LBRY Android App 'Releases' Github Page. Available at: <https://github.com/lbryio/lbry-android/releases>

Exhibit #1C – LBRY Spee.ch/LBRY.TV Application Development Timeline



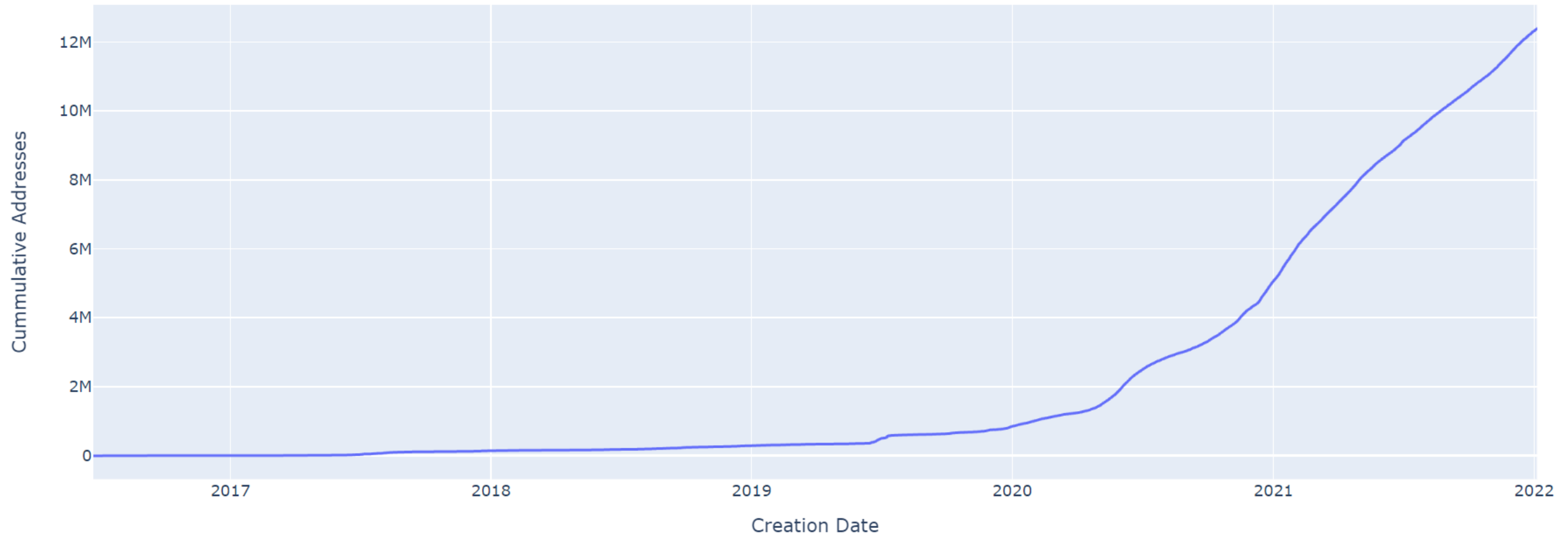
Sources:

LBRY Development Updates. Available at: <https://lbry.com/news/category/community-update>

Updates Published via LBRY Odysee Page. Available at: <https://odysee.com/@lbry:3f>

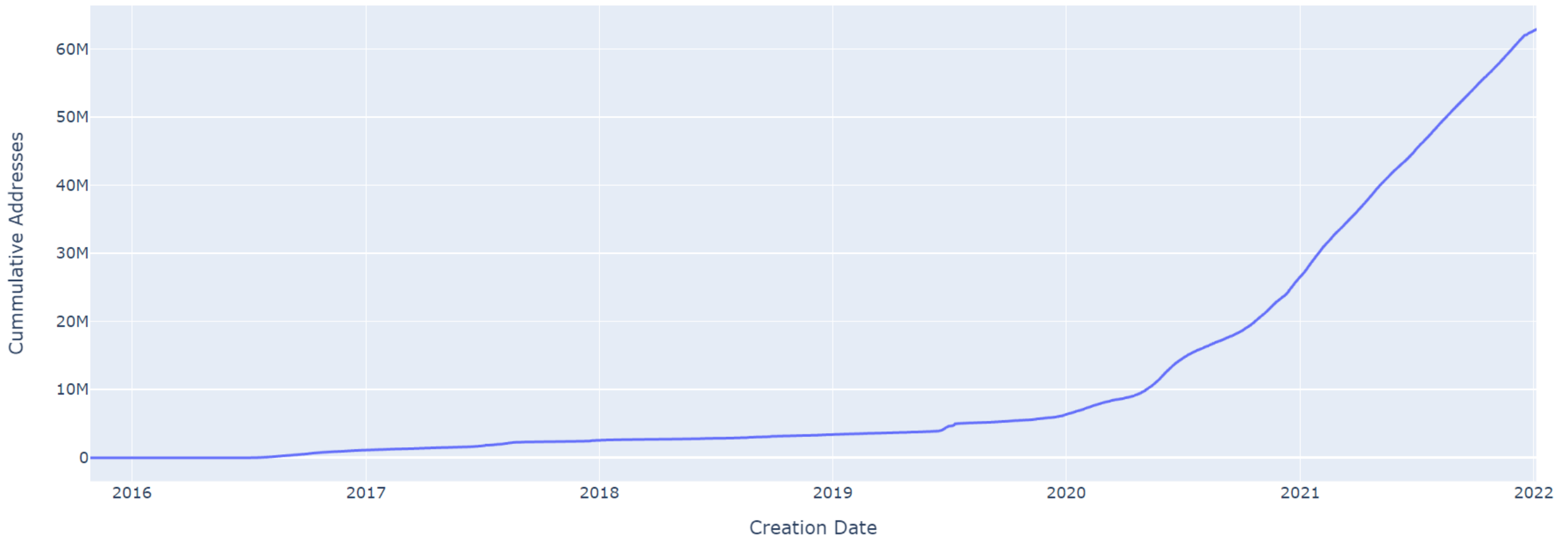
LBRY Spee.ch App 'Releases' Github Page. Available at: <https://github.com/lbryio/spee.ch/releases>

Exhibit #2 – Cumulative Number of LBRY Addresses with a Non-Zero LBC Balance



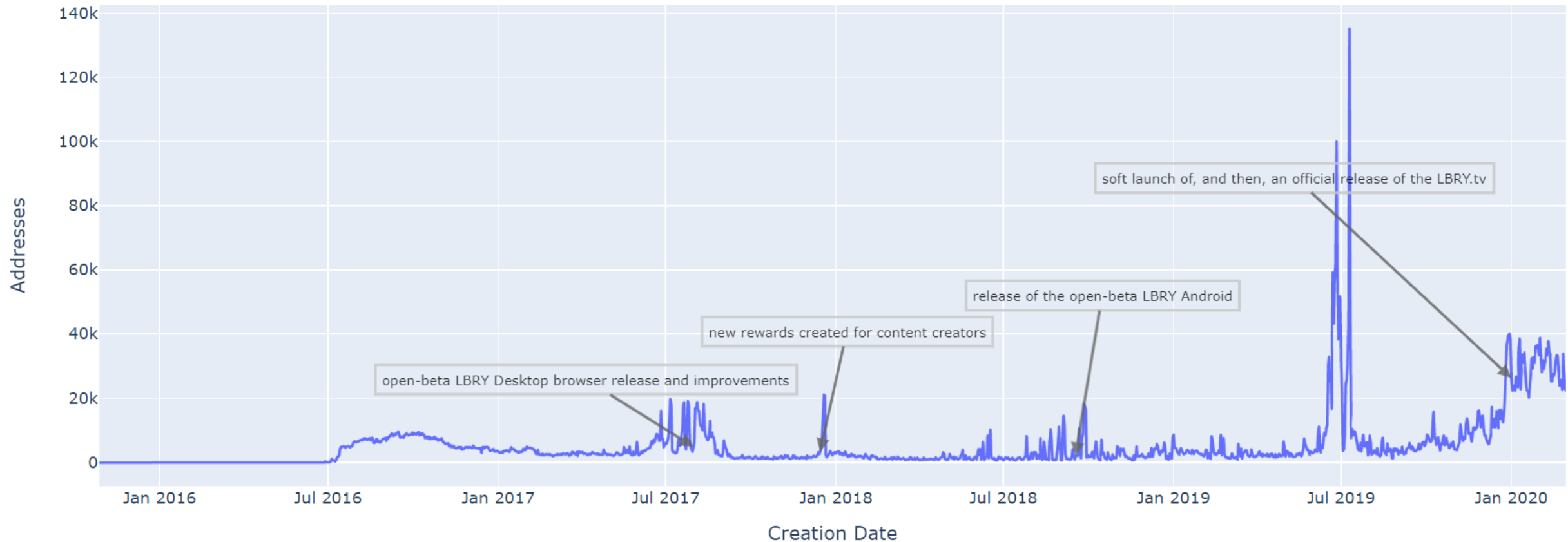
Source:
-LBRY Database

Exhibit #3 – Cumulative Number of Active LBRY Addresses



Source:
-LBRY Database

Exhibit #4A– Number of LBRY Addresses Created Before 2/28/20

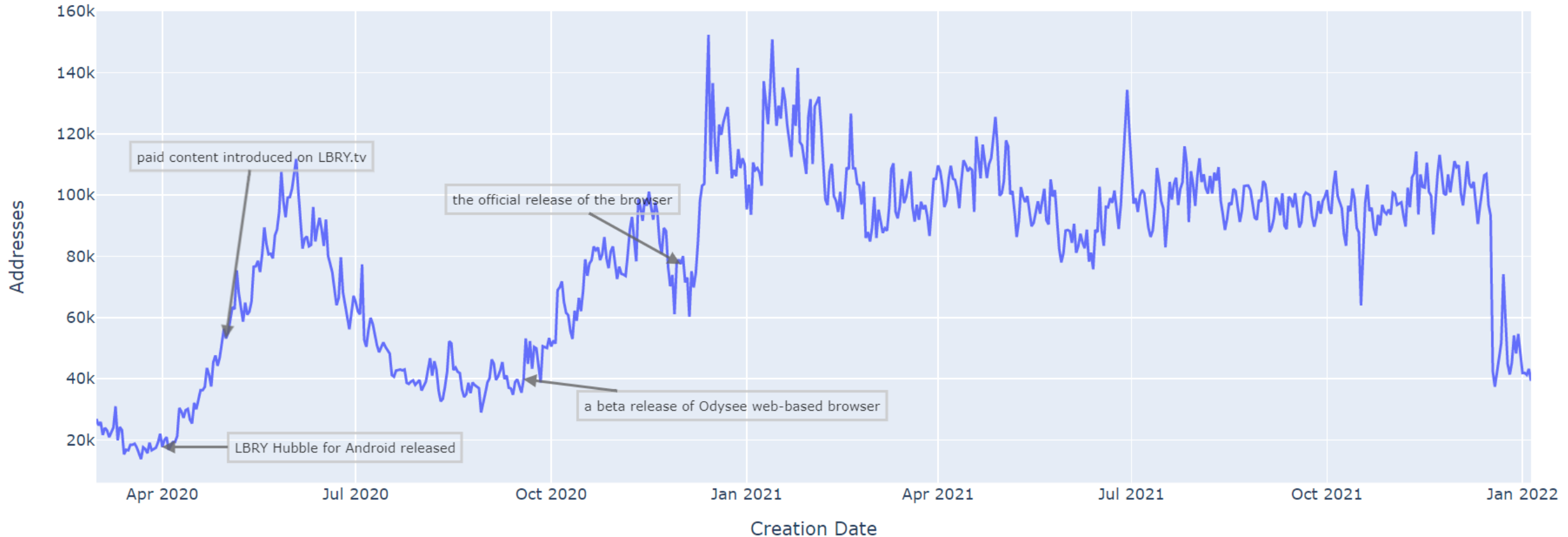


Sources:

-LBRY Database

-LBRY Community and Development Updates. Available at: <https://lbry.com/news/category/community-update>

Exhibit #4B – Number of LBRY Addresses Created After 3/1/20

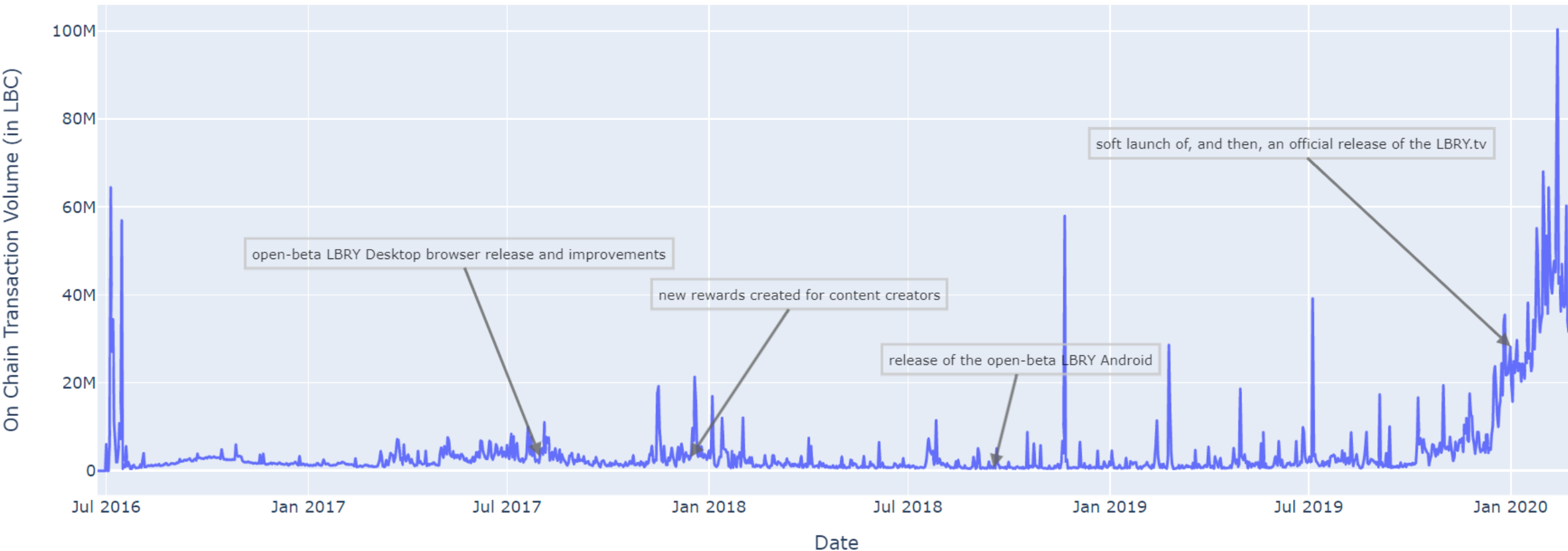


Sources:

-LBRY Database

-Updates Published via LBRY Odysee Page. Available at: <https://odysee.com/@lbry:3f>

Exhibit #5A – Volume of LBRY On-Chain Transactions (by LBC Count) Before 2/28/20

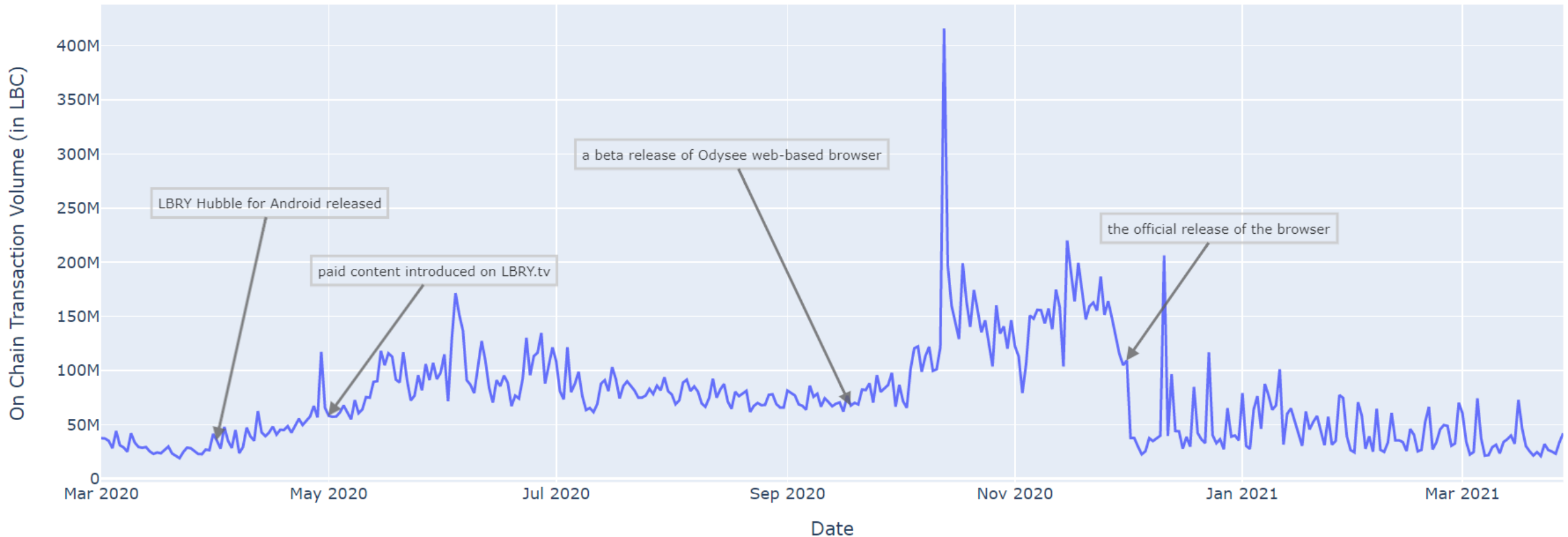


Sources:

-LBRY Database

-LBRY Community and Development Updates. Available at: <https://lbry.com/news/category/community-update>

Exhibit #5B – Volume of LBRY On-Chain Transactions (by LBC Count) Between 3/1/20 and 3/29/21

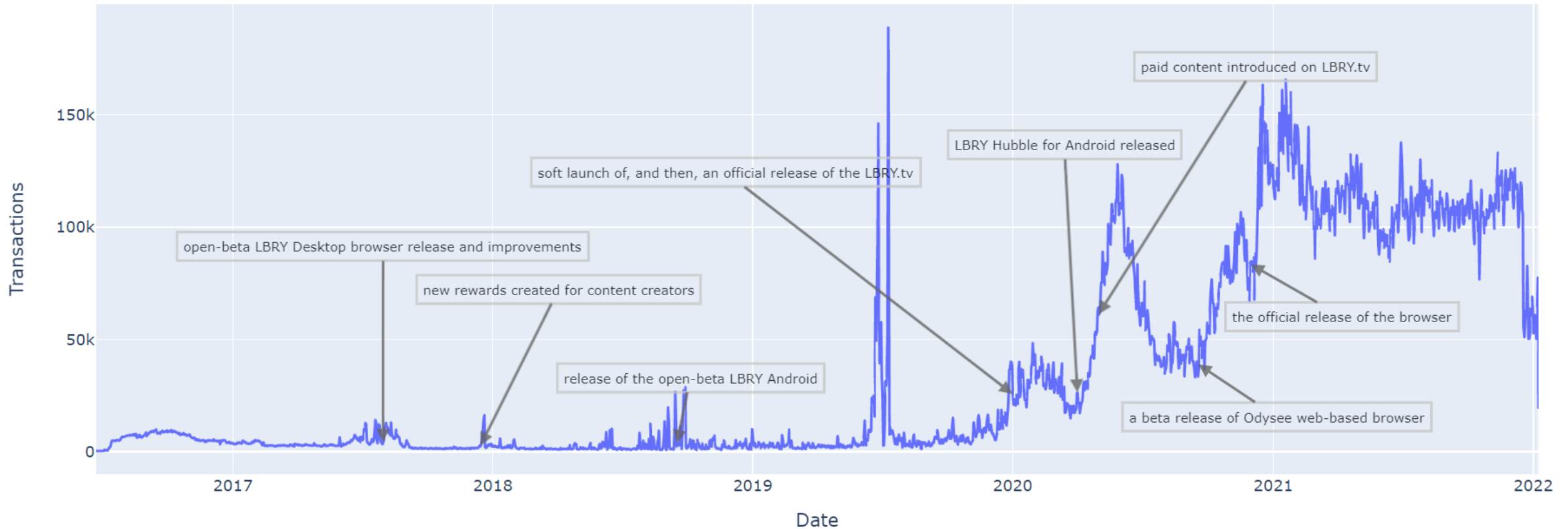


Sources:

-LBRY Database

-Updates Published via LBRY Odysee Page. Available at: <https://odysee.com/@lbry:3f>

Exhibit #6 – Number of LBRY On-Chain Transactions



Sources:

- LBRY Database
- LBRY Community and Development Updates. Available at: <https://lbry.com/news/category/community-update>
- Updates Published via LBRY Odysee Page. Available at: <https://odysee.com/@lbry:3f>

Exhibit #7A – Volumes of LBRY On-Chain Activity and Secondary Market Trading (by LBC Count) Before 12/31/19

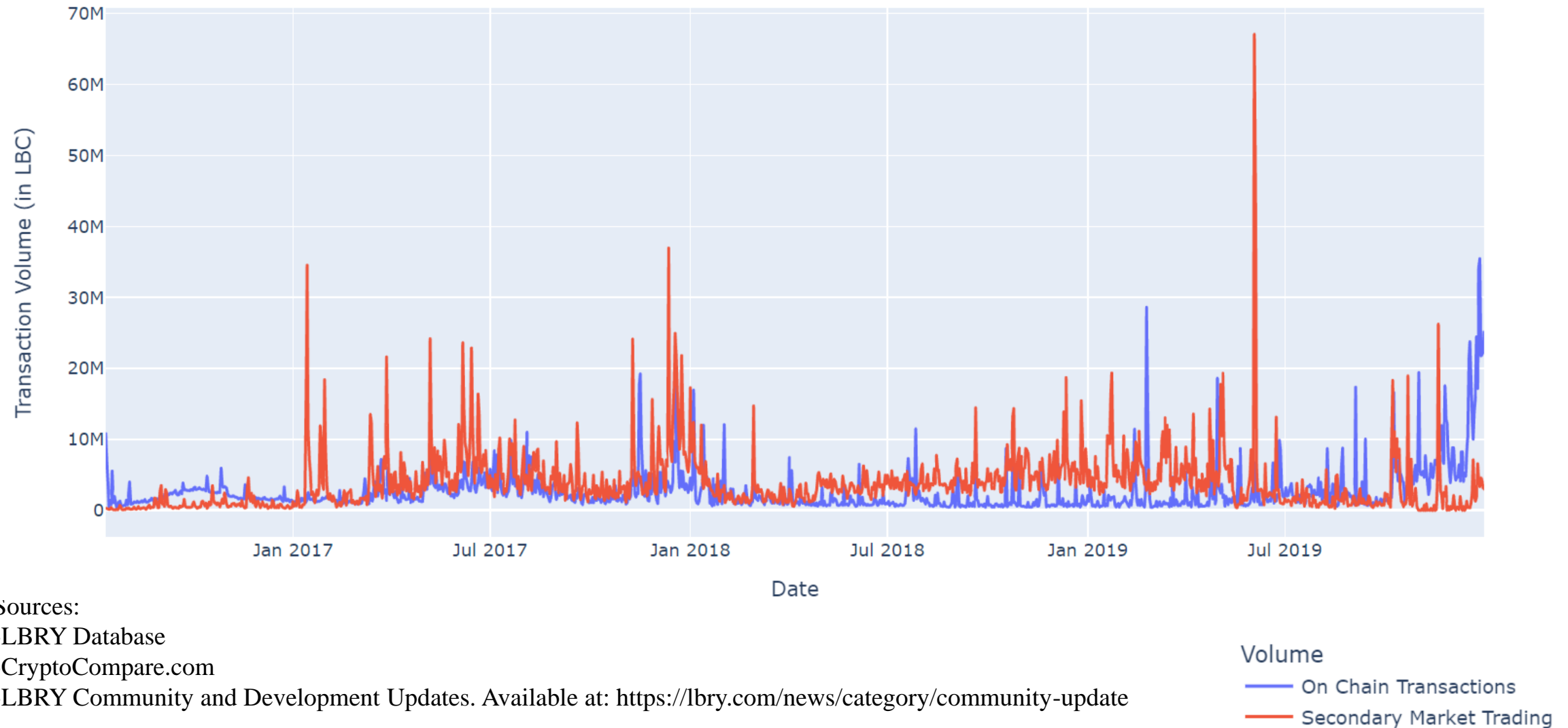
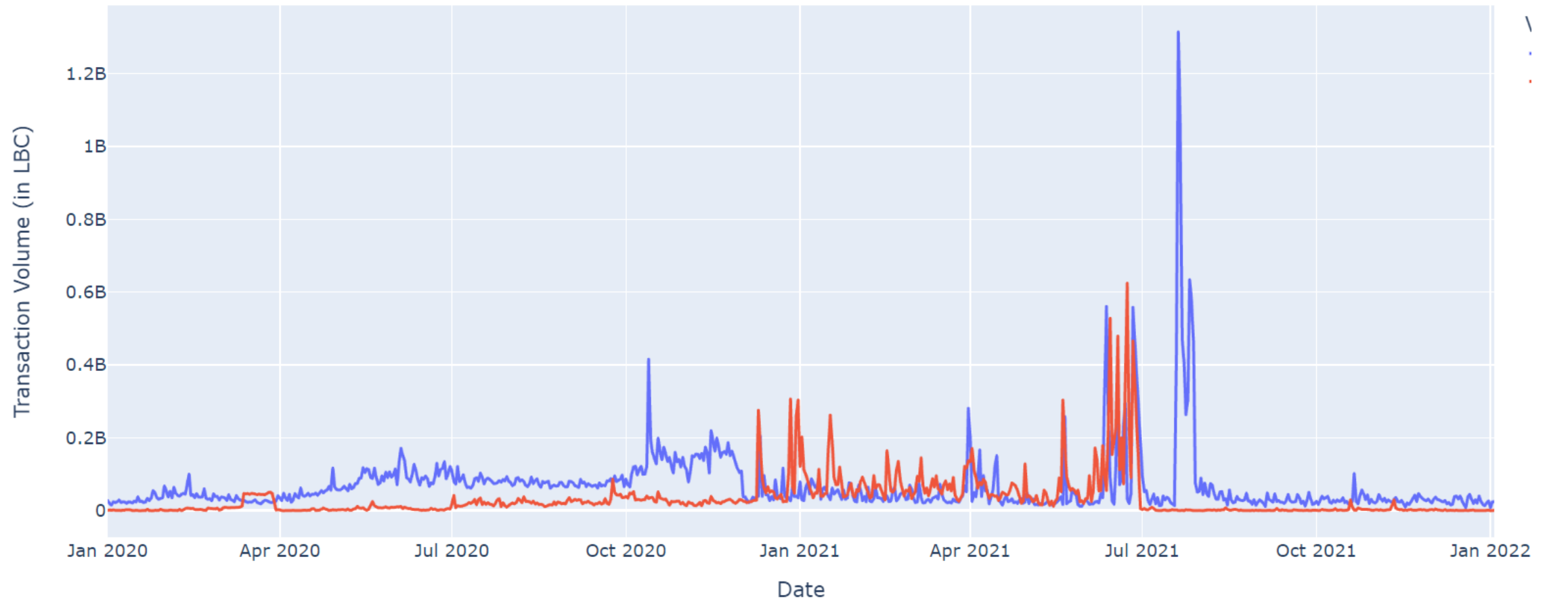


Exhibit #7B – Volumes of LBRY On-Chain Activity and Secondary Market Trading (by LBC Count) After 1/1/20



Sources:

-LBRY Database

-CryptoCompare.com

-LBRY Community and Development Updates. Available at: <https://lbry.com/news/category/community-update>

Volume

— On Chain Transactions
— Secondary Market Trading

Exhibit #8 – LBRY On-Chain Transaction Volume Significantly Exceeded LBC Secondary Market Trading Volumes (by LBC Count)

Year	On Chain Transaction Volume (a)	Secondary Market Trading Volume (b)	Difference (a-b)	On Chain/Trading Volume (a/b)
2016	415,294,688	129,992,778	285,301,910	3.19
2017	1,083,376,378	1,906,136,580	(822,760,202)	0.57
2018	647,946,966	1,486,012,563	(838,065,597)	0.44
2019	1,394,831,519	1,408,055,812	(13,224,293)	0.99
2020	27,826,922,411	7,833,785,244	19,993,137,167	3.55
2021	27,443,807,519	16,026,785,553	11,417,021,966	1.71
Total:	58,870,448,124	28,793,749,101	30,076,699,023	2.04

Sources:

- LBRY Database
- CryptoCompare.com

Exhibit #9 – Comparison of On-Chain/Off-Chain Volume Ratios for LBC, BTC and ETH

CryptoCompare On/Off Chain Volume Ratio			
Year	LBC	ETH	BTC
2016	3.19	3.23	2.05
2017	0.57	6.64	6.08
2018	0.44	1.36	2.85
2019	0.99	0.66	3.91
2020	3.55	0.61	2.91
2021	1.71	0.87	0.50
Total:	2.04	1.35	1.37

Note: Trading (off-chain) volume for ETH includes both centralized exchanges and Decentralized Finance (DeFi) Protocols. While trading on DeFi platforms, unlike on centralized crypto exchanges, occurs on-chain, we use the term “off-chain” somewhat loosely to identify secondary market trading activities. Both on-chain and off-chain transaction volumes are measured in number of tokens.

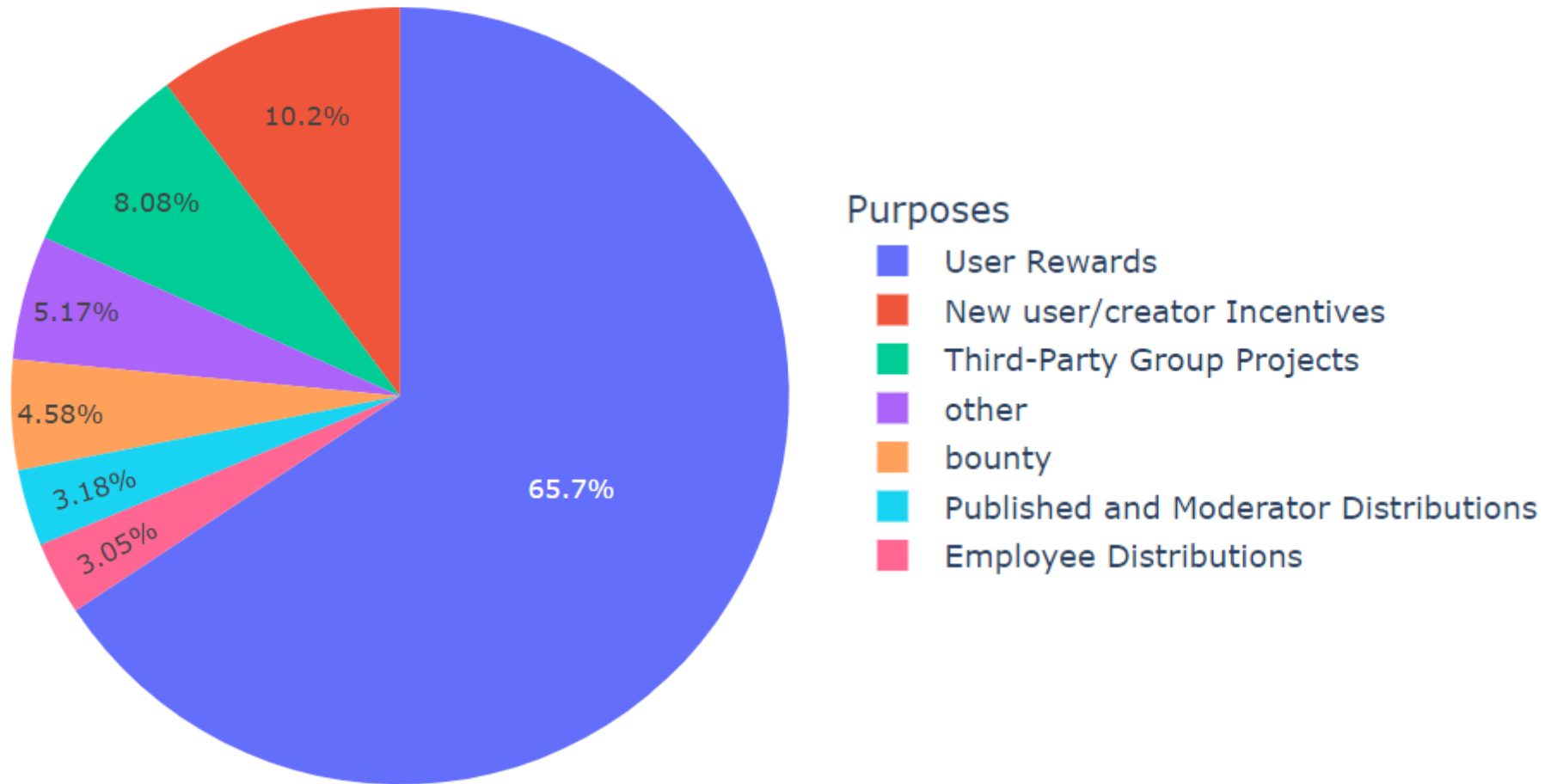
Sources:

-LBRY Database

-CryptoCompare.com

-<https://graphql.bitquery.io/ide>

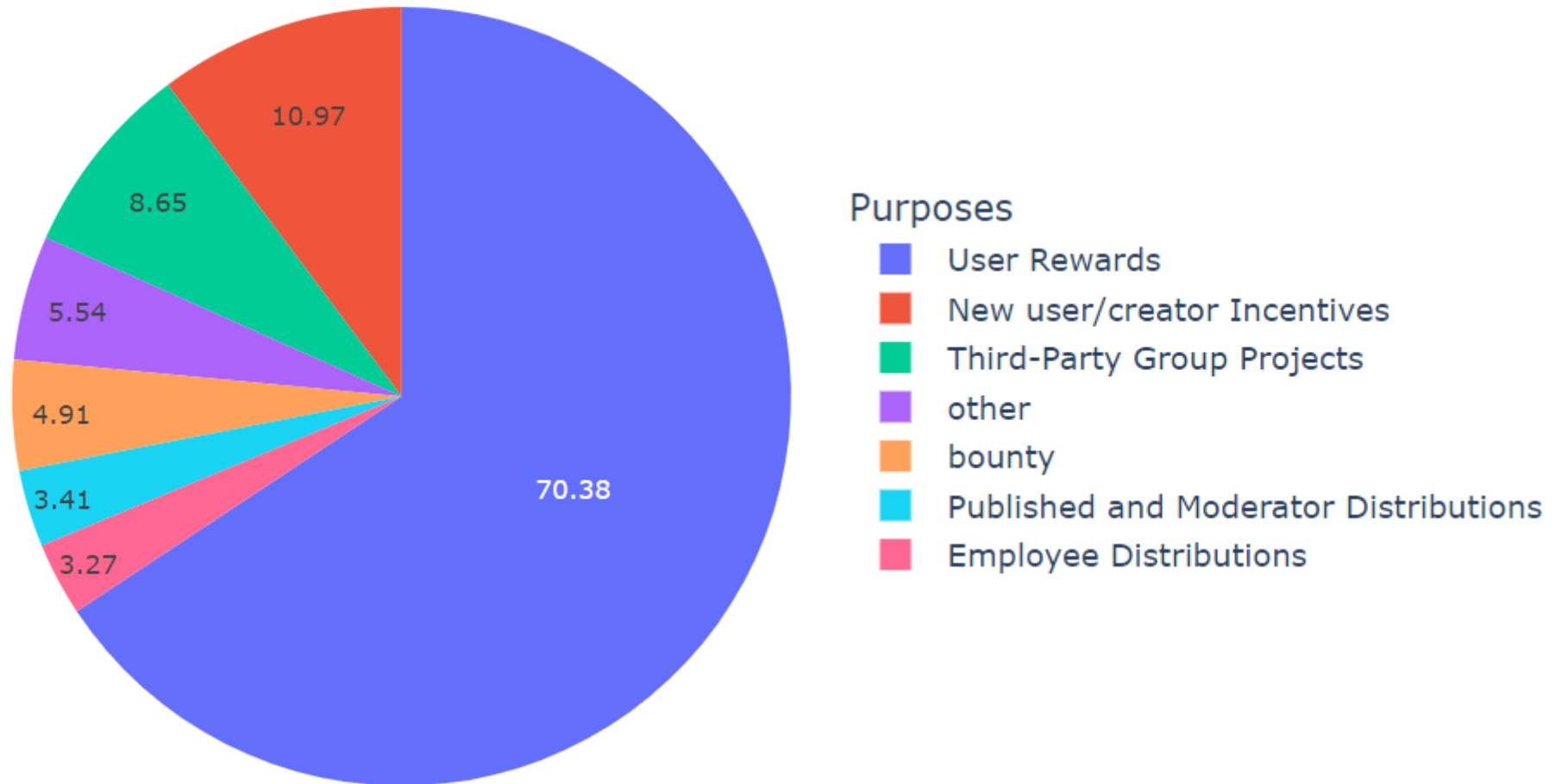
Exhibit #10A – Token distributions from LBRY Community Fund by Purpose (Percent)



Source:

-LBRY Quarterly Credit Reports. Available at: <https://lbry.com/credit-reports>

Exhibit #10B – Token distributions from LBRY Community Fund by Purpose (in Millions of LBC)



Source:
-LBRY Quarterly Credit Reports. Available at: <https://lbry.com/credit-reports>

Exhibit #11 – LBC Price is Insensitive to LBRY Team Announcements

Date	LBRY Team Announcement	LBC Return	BTC Return	statistically significant? 30- or 90-day sample
7/15/2016	July-15-2016-1.2b-market-cap-we-dont-care.html	-65.6874%	2.8617%	
9/7/2016	Sept-7-2016-500k-vc-funds-pillar.html	16.3684%	2.0623%	
9/20/2016	Sept-20-2016-ray-carballada-media-advisor.html	-18.1038%	-2.3593%	
10/10/2016	Oct-10-2016-alex-liebowitz.html	-16.8668%	3.2309%	
10/17/2016	Oct-17-2016-roadmap.html	-19.3866%	-1.7429%	
12/15/2016	Dec-15-2016-freedomfm.html	-5.5714%	1.3648%	
1/31/2018	Jan-31-2018-lbry-in-2017-2018.html	-21.6798%	-13.0487%	
5/11/2018	May-11-2018-we-are-hiring-our-boss.html	-7.3679%	-3.6388%	
6/14/2018	June-14-2018-lbry-fund-launches.html	1.1154%	3.0075%	
12/5/2018	Dec-5-2018-anti-media.html	-19.5276%	-14.3513%	
2/6/2019	Feb-6-2019-lbry-in-2018-2019.html	2.4944%	5.9776%	
3/29/2019	Mar-29-2019-binance.html	2.6317%	1.8712%	
10/11/2019	Oct-11-2019-swarm-intro.html	-7.9501%	-3.5549%	
1/15/2020	Jan-15-2020-stossel.html	-11.1918%	0.8341%	
1/25/2020	Jan-25-2020-20-01comm.html	-12.1443%	5.3924%	
3/3/2020	250 LBC Incentive to Steem blockchain users to join LBRY	25.4649%	1.7237%	TRUE
4/8/2020	Apr-8-2020-March a Million.html	2.9128%	-4.6191%	
6/29/2020	June-29-2020-altonomy-market-making_2.html	9.8331%	1.2909%	
7/29/2020	July-29-2020-Julian Chandra Joins LBRY as VP of Growth.html	6.0714%	3.7648%	

Note: Three-day LBC price returns, computed over dates t-1, t+0 and t+1 are regressed on BTC returns using ordinary least squares regression method, where t+0 is the announcement date.

Sources:

-LBRY Announcements. Available at: <https://lbry.com/news> and <https://odysee.com/@lbry:3f>

-CryptoCompare.com

Exhibit #12 – LBC Price Tends to React Positively to Enhanced LBRY Functionality

Date	Application Feature Announcement	LBC 1-Day Return
6/2/2017	Integration with Coinomi wallet for self-custody and direct purchase of LBC	27.9%
7/31/2017	Release of Open Beta LBRY Desktop browser	8.4%
8/31/2017	New LBRY wallet functionality for invites, rewards, better onboarding process for first-time users, improved price setting protocol	9.3%
12/11/2017	Live channel subscriptions and integration with ShapeShift	8.1%
9/17/2018	Open beta release of LBRY Android mobile browser	2.9%
12/19/2019	Creator rewards for follows and views, amount published	19.7%
12/20/2019	Updated search engine, mobile view for lbry.tv, interface and performance improvements for lbry.tv and LBRY desktop	10.5%
2/3/2020	Public launch of LBRY.tv, Galaxy upgrade to LBRY Android	14.7%
4/22/2020	Newton upgrade of LBRY Desktop	12.2%
5/8/2020	Paid content on LBRY.tv announced	7.8%
12/1/2020	Official launch of Odysee	2.3%
12/9/2020	Detailed explanation of Odysee functionality	2.1%
13/18/2021	Retirement of LBRY.tv browser	13.3%

Sources:

-LBRY Development Updates. Available at <https://lbry.com/news/category/community-update> and <https://odysee.com/@lbry:3f>

-CryptoCompare.com

Exhibit #13 – LBRY Utility is a Statistically Significant Factor of LBC Price

Date	Utility Announcement	LBC Return	BTC Return	statistically significant? 30- or 90-day sample
7/6/2016	July-6-2016-lbry-credits-on-bittrex.html	-89.3629%	-0.1342%	
8/4/2016	Aug-4-2016-publish-tools-live-earn-1000-dollars.html	0.6503%	3.4716%	
8/8/2016	Aug-8-2016-shapeshift-adds-lbc.html	-12.4403%	0.0152%	
8/18/2016	Aug-18-2016-lbry-bounties.html	0.2170%	1.7785%	
8/25/2016	Aug-25-2016-ui-publishing-tools-upgrades.html	-8.4260%	-1.6192%	
8/29/2016	Aug-29-2016-nsfw-lbry-settings.html	-14.6645%	-0.1915%	
10/25/2016	Oct-25-2016-lbry-windows.html	-14.6580%	4.7744%	
6/2/2017	June-2-2017-coinomiwallet.html	38.2163%	4.5143%	
7/31/2017	Release of Open Beta LBRY Desktop browser	27.1946%	-1.6753%	TRUE
8/31/2017	Aug-31-2017-lbry-release-first-run-wallet-invites-rewards.html	0.9242%	-0.2014%	
9/21/2017	Sept-21-2017-new-lbry-version-with-tipping.html	-24.3029%	-2.4548%	
10/12/2017	Oct-12-2017-new-lbry-version-with-search.html	-3.7331%	18.8464%	
10/30/2017	Oct-30-2017-always-gif-responsibly.html	-5.6037%	9.1682%	
12/11/2017	Live channel subscriptions and integration with ShapeShift	56.8893%	7.8341%	TRUE
5/24/2018	May-24-2018-what-is-chainquery.html	-2.6266%	-2.0284%	
6/25/2018	June-25-2018-austen.html	-1.5610%	-0.2636%	
7/25/2018	July-25-2018-app-release-023.html	3.6094%	-2.5689%	
8/29/2018	Aug-29-2018-something-wicked-cool-this-way-comes.html	-3.4734%	-0.9126%	
9/17/2018	Sept-17-2018-lbry-in-your-pocket.html	0.0180%	-1.6067%	
12/11/2018	Dec-11-2018-c-is-for-clarke.html	-11.2885%	-4.7866%	

Note: Three-day LBC price returns, computed over dates $t-1$, $t+0$ and $t+1$ are regressed on BTC returns using ordinary least squares regression method, where $t+0$ is the announcement date.

Sources: -LBRY Announcements. Available at: <https://lbry.com/news> and <https://odysee.com/@lbry:3f>

-CryptoCompare.com

Exhibit #13 cont. – LBRY Utility is a Statistically Significant Factor of LBC Price

Date	Utility Announcement	LBC Return	BTC Return	statistically significant? 30- or 90-day sample
1/15/2019	Jan-15-2019-lbry-is-turning-27.html	-0.8637%	-0.5034%	
2/5/2019	Feb-5-2019-bring-a-friend-to-lbry.html	-6.9361%	-1.6429%	
2/20/2019	Feb-20-2019-lbrytech.html	5.5371%	1.4996%	
2/21/2019	Feb-21-2019-lbry-evolves.html	2.6737%	4.3103%	
5/16/2019	May-16-2019-32-skidoo.html	-19.3287%	-11.8943%	
7/24/2019	July-24-2019-erikson-sets-sail.html	-7.4367%	-0.0680%	
8/12/2019	Aug-12-2019-launch-into-andromeda.html	-8.2792%	-14.0835%	
8/15/2019	Aug-15-2019-franklin-is-minted.html	-20.1451%	1.8651%	
9/26/2019	Sept-26-2019-butterfly-flits-onto-the-scene.html	-0.1992%	-2.6794%	
10/4/2019	Oct-4-2019-galileo.html	-8.6855%	-4.6921%	
10/18/2019	Oct-18-2019-unification.html	-2.5771%	2.0184%	
11/4/2019	Nov-4-2019-doppler.html	8.1788%	1.3535%	
12/13/2019	Dec-13-2019-eclipse.html	-4.1310%	-0.9350%	
12/19/2019	Creator rewards for follows and views, amount published	29.9283%	-1.8689%	TRUE
12/20/2019	Updated search engine, mobile view for lbry.tv, interface and performance improvements for lbry.tv and LBRY desktop	58.7810%	4.8838%	TRUE
1/8/2020	Jan-8-2020-fireworks.html	-2.6911%	0.3663%	
1/22/2020	Jan-22-2020-joule.html	-8.6376%	-3.4166%	
1/31/2020	Jan-31-2020-lbrytv.html	-6.8403%	-1.7747%	
2/3/2020	Feb-3-2020-android-galaxy.html	10.0505%	2.9262%	

Sources:

-LBRY Announcements. Available at: <https://lbry.com/news> and <https://odysee.com/@lbry:3f>

-CryptoCompare.com

Exhibit #13 cont. – LBRY Utility is a Statistically Significant Factor of LBC Price

Date	Utility Announcement	LBC Return	BTC Return	statistically significant? 30- or 90-day sample
2/5/2020	Feb-5-2020-kelvin.html	-8.8096%	6.7082%	
3/24/2020	March-24-2020-android-hubble_a.html	7.5472%	3.8374%	
4/22/2020	Newton upgrade of LBRY Desktop	42.1335%	9.1167%	TRUE
5/8/2020	May-8-2020-Paid Content Is Coming to lbry.tv_ What You Need To Know.html	-9.8587%	-13.5234%	
5/21/2020	May-21-2020-paid-content-beta_b.html	3.0965%	-3.4585%	
6/3/2020	June-3-2020-buylbconlbrytv_b.html	-18.4321%	1.0266%	
8/18/2020	Aug-18-2020-creatorrewards2020_3.html	-4.3657%	-3.6235%	
9/18/2020	Sept-18-2020-Say Hi to Odysee, Our New Video Sharing Platform.html	-7.7245%	-0.2130%	
9/25/2020	LBRY Android banned from the Google Playstore	18.2702%	0.3576%	TRUE
10/9/2020	https://odysee.com/@lbry:3f/odyseewhatandwhy:9	0.4246%	4.0006%	
10/21/2020	Explanation of LBRY platform and Odysee	-15.5205%	8.1740%	TRUE
11/19/2020	Nov-19-2020-udderimprovements_2.html	9.9560%	5.0314%	
12/1/2020	Official launch of Odysee	-5.9205%	-1.2185%	
12/9/2020	Detailed explanation of Odysee functionality	84.3591%	-1.5879%	TRUE
3/18/2021	Retirement of LBRY.tv browser	4.9656%	-1.3805%	

Sources:

-LBRY Announcements. Available at: <https://lbry.com/news> and <https://odysee.com/@lbry:3f>

-CryptoCompare.com

Exhibit #14 – LBC Price is Determined Significantly by the Broader Cryptocurrency Market

Regression of LBC Price Returns on Bitcoin Price Returns

Year	Regression Sample			
	30 day		90 day	
	Estimated BTC Coeff	t-stat	Estimated BTC Coeff	t-stat
2017	0.9260	3.2774	1.1786	5.4902
2018	1.6089	9.0749	1.4576	13.0895
2019	1.0349	3.4901	0.8365	5.7876
2020	0.5955	2.3021	0.8405	4.2166
2021	1.3172	5.4292	0.8109	3.8681

Reported Estimated BTC Coefficients and t-statistics are their average values in a given year.

Note: Three-day LBC price returns, computed over dates $t-1$, $t+0$ and $t+1$ are regressed on BTC returns using ordinary least squares regression method, where $t+0$ is the announcement date.

Source:

-CryptoCompare.com